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## ORIGINAL ARTICLES.

### THE PHYSIOLOGICAL EFFECTS OF THE EMPYREUMATIC OIL OF COFFEE, OR CAFFEON.

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THE well-known fact that the strong infusion of coffee as ordinarily ingested, possesses certain properties in which the alkaloid caffeine is lacking, points very strongly to the empyreumatic oil of coffee as the second agent whose presence is felt. This empyreumatic oil of coffee, or caffeo, is a complex mixture of the oils contained in browned coffee, formed in the roasting as a product of destructive distillation of the organic matter in the green bean.

As long ago as 1853, J. Lehman studied the action of the oil. He distilled ground coffee, which had previously been browned, with water, and administered the aqueous distillate, which contained an unknown quantity of the drug, in tumblerful doses. These doses were repeated as often as four times in one day. The symptoms noted were nervous agitation, slight sweating, and a marked increase in the rapidity of the circulation. When twice the above amount was ingested the symptoms were congestion of the eyes, copious perspiration, sleeplessness, and in some instances purging.

The results reached by Lehman have been confirmed by Nasse, who, using animals, noted in addition to the disorders already mentioned, intestinal peristalsis of a marked type, which he claims that caffeine fails to produce. Meplain and Marvard state that caffeo slows the circulation and decreases the arterial pressure. Rabuteau considers that the oil is capable of producing symptoms of a decided toxic nature, and prevents the development of infusoria in liquids, such as milk, etc. Rabuteau goes so far as to assert that the oil is the chief factor in causing the well-known coffee wakefulness. The results of Binz, of Bonn, are, however, in direct opposition in some respects to those of Meplain and Marvard, for he found that the oil of coffee increases the number of the cardiac pulsations and stimulates respiration. Zulinski found that, when given to frogs, tetanic spasms of the muscles came on.

So far as we can discover, all of the investigators so far named, used an aqueous distillate of browned

coffee containing an unknown quantity of the oil. This being the case, it seemed to us of interest to determine the effect of the pure oil in definite amount on the animal organism.

The empyreumatic oil employed by us was obtained from the freshly roasted bean, by placing the very finely ground coffee in a Soxhlet's extractor, and extracting by means of petroleum ether. In this process the fats contained in the coffee would also be extracted by the ether, but as it is likely that most of the fats were converted into empyreumatic substances in the roasting, those remaining undecomposed and extracted in company with the oil by the ether, were so inconsiderable as not to influence the physiological action. Caffeine is also very slightly soluble in petroleum ether, and on evaporating the petroleum ether and allowing the oil to stand a few days, the caffeine separates in minute crystals and subsides at the bottom of the vessel and may be removed by filtration. The petroleum ether containing the oil was allowed to evaporate at ordinary temperature, the remaining oil, after standing several days, was filtered to remove small particles of the coffee and the minute crystals of caffeine that separated. The oil obtained in this manner was of the consistency of a very dilute syrup, and was light or dark brown in color, according to the degree to which the beans had been roasted. This variation in color does not seem to have had any relation to its physiological action. It possessed to a great degree the peculiar aroma of browned coffee. The percentage of oil obtained from an average browned coffee was found to be 11.6 per cent., and from this we calculated that a cup of coffee, made in the ordinary way, provided the liquid possessed all the oil contained in the amount of coffee employed in its preparation, would contain about 3 c.c. (45 minims) of the oil.

When from one to four cubic centimetres of the pure oil are injected into the jugular vein of a medium sized dog, whose carotid artery is attached to the mercurial manometer, almost immediately there is produced an increase in the rapidity of the pulse, which continues for many minutes. If a larger dose, as much as 8 cubic centimetres, be given, the pulse is quickened for a short time, and in the course of a few minutes slowed very considerably. That the cause of the rapid pulse is not due to depression of the inhibitory apparatus, was proved by the fact that in every instance stimulation of the vagi slowed the heart quite as powerfully as if no drug had been given. The increase in rate must, therefore, be due

either to a direct stimulation of the heart itself, or the accelerator nerves. That the influence of the drug is exerted upon the heart directly seems the more probable, since if a minute amount of the oil be applied directly to the frog's heart, an increase in the pulse rate occurs. The slowing of the pulse, which comes on when larger doses are used, depends on the influence which the drug exerts directly on the heart muscle, since at this time section of the vagi fails to cause as great an increase in rate as should ordinarily occur. This might be an indication that the peripheral vagi were stimulated, were it not that at this time the pulse waves are small and feeble, and the whole tracing indicates circulatory depression. That the fall of arterial pressure occurring with the slowing of the pulse, is due to cardiac involvement rather than to vaso-motor disturbance, was proved by the fact that asphyxia at this time immediately produced a rise of arterial pressure almost equal to the normal; further than this, it was proved by experiments on the isolated frog's heart that the drug, when directly applied in large amounts, acted as a depressant, the movements becoming slower, weaker, and finally ceasing in diastolic arrest; previous to this stoppage, however, slight vermicular or peristaltic waves traversed the ventricular wall.

The contradiction which apparently exists between the results of Binz and Meplain and Marvard are therefore explainable by the supposition that the first observer used a distillate containing a smaller percentage of the oil than that of the French investigators, and as a result of this Binz found, as we have done, that the pulse-rate is quickened, while his Gallic brethren found that it was slowed. The following tables, from tracings taken by ourselves, illustrate what we have already stated.

TABLE I.—Dog, weight 12 lbs. Showing increase in pulse-rate after small doses, and the effect of stimulating the vagi.

Time.	Drug.	Pressure.	Pulse.	Remarks.
11.00	.....	140-160	132	
11.00.10	.....	140-158	132	
11.00.20	.....	140-158	126	
11.00.30	.....	140-158	126	
11.00.50	.....	140-158	134	
11.01.06	4 c.c. of pure oil.	140-158	134	Injection begun.
11.01.16	.....	158-120	134	
1.0 .26	.....	120-144	102	Injection ended.
11.01.41	.....	130-120	108	
11.01.51	.....	120-130	126	
11.02.01	.....	106-130	126	
11.04	.....	126-146	144	
11.04.10	.....	126-144	156	
11.04.20	.....	120-144	156	
11.08	.....	130-156	154	
11.08.10	.....	132-210	132	This momentary slowing of pulse probably due to irritation of the vagi when rousing for galvanization.
11.08.20	.....	142-204	156	
11.08.30	.....	144-184	144	Galvanized vagi.
11.08.40	.....	118-210	84	
11.08.50	.....	136-228	66	

TABLE II.—Dog, weight 15 lbs. Showing slowing of pulse produced by large doses (8 c.c.) of the oil of coffee, and effect of vagal section.

Time.	Drug.	Pressure.	Pulse.	Remarks.
11.50	.....	120-188	90	Showing pulse before drug was given from 140-150 per minute.
11.51	.....	118-176	86	
11.51	.....	120-188	84	
11.51.40	.....	120-188	90	
11.51.50	.....	128-196	84	
11.52	.....	122-178	90	Vagi cut.
11.52.14	.....	124-192	120	
11.52.24	.....	164-192	174	
11.52.34	.....	180-200	178	
11.52.44	.....	190-224	186	
11.52.54	.....	188-224	176	
11.53.54	.....	194-216	168	
11.54.54	.....	196-218	180	
11.55.54	.....	200-221	190	

A curious condition of the heart was found to be constant in every one of the seven tracings taken, namely, that the heart was found stopped in diastole, with all its cavities greatly distended and filled by a well-formed clot, which would stand upon the palm of the hand without breaking. In order to determine whether the drug had any effect on the blood outside of the body, we opened the carotid artery of the dog and allowed about 5 c.c. of blood to escape into a porcelain dish in which was placed 1 c.c. of the oil.

Under these circumstances the blood in contact with the oil coagulated in half the time required by the blood in the dish without the oil. Notwithstanding the fact that we have examined the oil very carefully for any foreign substance which might produce such changes, we are unable to offer any explanation of this curious change in the blood.

On the nervous system the drug has evidently an action resembling only in some of its points that generally ascribed to coffee. When one cubic centimetre of this oil was given to a medium-sized frog, by means of a hypodermatic syringe, into the posterior lymph-sac, in the course of from one to two minutes reflex movements became very much increased in scope and force, remaining so for a number of hours, and at no time did diminution of either sensation or motion appear to come on. When two cubic centimetres of the oil were injected hypodermatically into a lively Scotch terrier, in ten minutes he became quiet, and in twenty minutes was asleep in front of the fire. If aroused or disturbed, his attention could readily be obtained, but if neglected sleep again asserted itself.

The laboratory assistant now took by the mouth about 4 c.c. (about a drachm) of the oil and suffered no symptoms for three hours, when he also became so sleepy, that on returning home at 6 P.M., he did not want to eat, but was overpowered by sleep, and lying down on a sofa fell into a slumber from which his wife with difficulty aroused him in an hour or two. As this man did not know of the action of the drug, this result could hardly have been due to

imagination. His report was given voluntarily, with no questioning. Owing to the kindness of Dr. de Schweinitz we were enabled to obtain the following tests:

**CASE I.**—A., æt. fifty-nine, female. Always passes sleepless nights, or, at the best, is very restless. Gave fifty minimis of the oil at 3.58 P. M., when the pulse was 84. At 5 P. M. there was nausea but no vomiting. At 8.15 P. M. there was vomiting of mucus and the contents of the stomach, supper having been eaten in the meantime. Retired at 9 o'clock, and made the statement next day voluntarily that she had slept the entire night. There was no period of drowsiness before the sleep, and no sequelæ.

**CASE II.**—Male, aged about fifty. Had fallen and cut his temple on the ice, he also had winter cough quite severely. Gave fifty minimis at 4.17 P. M., the pulse being 66. At 7.15 no change in pulse, no drowsiness. Went to bed between 8 and 9 P. M., the pulse at this time being 110. The man was restless, but had no nausea. He passed a restless night, and had no diminution of pain in the head caused by the fall.

As pain may have been a factor in producing insomnia in this case, it is not of much value in its results as indicating what effect the drug may have on sleep.

In a third case Dr. de Schweinitz noted no change, save perhaps some increase in restlessness.

To sum up this apparent power of producing sleep, we find that in the dog and in two instances in man sleep was produced; while in two instances in man, in one of whom pain was present, the oil failed to cause sleep, but rather restlessness.

**Summary.**—The pure empyreumatic oil of coffee increases pulse-rate by direct cardiac stimulation in small doses, and lowers pulse-rate by a cardiac action in large doses. On the highly developed spinal cord of the frog it causes increased reflex excitability, but on the mammal, with a well-developed brain, drowsiness and sleep, although with the limited material at our disposal this is at present far from being positively proved.

The action of this oil is evidently not as powerful as is that of the alkaloid caffeine.

#### A CASE OF CHOLECYSTOTOMY.

BY J. J. EDWARDS, M.D.,

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MISS B., æt. fifty-four, of Irish descent, school teacher. When a child had a mild attack of yellow fever, otherwise has always enjoyed perfect health until four years ago, about the climacteric, when she experienced vague pains in right hypochondriac region, accompanied by a slight cough, which were ascribed by her physician in a neighboring city to some lung trouble. Pains were never paroxysmal or severe. No gall-stones were ever detected.

Her health began to fail in December, 1887; com-

plained of general malaise; pain in side increased and bowels moved only after the administration of cathartics. The dejections were clay colored and very offensive, slight icterus now developed for the first time. She was advised to go to Florida to recuperate. She came to Charleston in the middle of January and consulted a physician, who attended her constantly, but gave no hope of relief and predicted an early dissolution.

I saw the case late in the afternoon of March 8th, and found a very emaciated, extremely weak, and intensely jaundiced woman, who could retain nothing on her stomach. She vomited quantities of black disintegrated blood. Her dejections were frequent and quite fetid, and consisted of dark bloody mucus. She complained of intense pain over the liver and extending down to the right iliac fossa. Her urine contained bile. Her extremities were cold, and her knees were drawn up.

**Physical examination.**—Liver much enlarged, reached four fingers' breadth below border of ribs. An ovoidal tumor, which accompanied respiratory movements, apparently cystic, very sensitive; that pressure on it caused nausea and faintness, with a tympanitic sound on percussion except over a very small area which was dull, and about three inches across, was readily demonstrated.

**Diagnosis.**—Distended gall-bladder, due to an obstructed duct, possibly by a calculus. An immediate operation was advised as the only means of relief. This was not accepted, and the friends were given until morning to decide. Ordered one grain of calomel in ten powders one every hour, and an enema of two ounces sweet oil with one drachm glycerine, also the administration of stimulants.

She passed a better night, but had weakened perceptibly. An operation was now consented to with the distinct understanding of its almost sure fatality.

With the assistance of Drs. Rhett and Buchanan the patient was chloroformed and hypodermatics given to arouse the already flagging vital forces.

A vertical incision, two and one-half inches, over the outer border of the rectus muscle through the peritoneum disclosed an enormously enlarged liver and distended gall-bladder. The incision was now enlarged downward, the needle of the aspirator was inserted into the cyst at the lowest possible point, and drew off seven and one-half ounces of bile and mucus; as the sac collapsed the needle came gradually upward until it was considerably above the lower angle of the incision. The bladder was now grasped by two catch forceps, the needle withdrawn, and an incision made between the forceps large enough to admit the finger, which readily detected several stones. The tedious process of removing them singly with forceps was begun, when, at the suggestion of Dr. Rhett, it was found much more expedient to strip them out with the finger in the abdomen; the opening in the bladder being first drawn beyond the abdominal wound. Twenty-nine stones, averaging five and one-third grains, were removed. There were adhesions between the lower surface of the bladder and the surrounding structures, through which an enlargement, possibly another stone, could be felt over the course of the common duct, but as a searcher failed to de-

tect it, and, owing to the precarious condition of the patient, it was decided to finish the operation at this stage. The peritoneum at the upper angle was first united by catgut opposite to the opening in the gall-bladder; the deep retention silk sutures down to the peritoneum were passed, but not tied. As there was constant oozing of bile, and we feared its extravasation into the abdominal cavity, Tait's procedure of uniting the sac to the peritoneum by a continuous suture passed through the abdominal walls was deviated from, and instead, the incision in the bladder was drawn up until on a level with the integument, then the peritoneum alone was united to its walls lower down by continued catgut suture, the silk sutures tied, and the mouth of the sac stitched to the integument. A large drainage tube was inserted; iodoform was dusted over and the dressing completed as usual.

Patient was put to bed and every endeavor made to rally her, but she died in collapse eight hours after the operation. The hemorrhage, consisting principally of general oozing, was considerable and hard to control. Thorough aseptic precautions were observed. The dressings were found, after death, to be saturated with bile and tinged with blood.

Reviewing the case, it would seem, in this instance, better to have aspirated first, and then allowed the patient to react; then the radical procedures, subsequently, might not have terminated so disastrously. Possibly it was wrong to have operated on the patient, in her condition, at all, but it was done in her interest and not for statistical record.

The operation, comparatively, is not a hard one, and it is surprising that it is not oftener performed.

March 11, 1888.

#### DYSTOCIA, DUE TO HYDROCEPHALUS, NECESSITATING CRANIOTOMY.

BY A. A. G. STARCK, M.D.,  
OF PHILADELPHIA.

ON October 4, 1887, I was summoned to Mrs. D., age twenty-two years, German, in labor with her second child. A midwife in attendance gave this history. The patient considered her time up two weeks previously, and began having pains. The mid-wife's examination could not determine a presenting part. Bearing-down pains, however, lasted two weeks, but no progress was made in the labor. During this time she vomited everything, the egesta being mixed with bile. The act of vomiting was accompanied by severe pain in the hepatic region. On my arrival on the morning of the 4th, the patient had no pains, as they had suddenly ceased at 12 o'clock midnight. Previous to that time she had suffered throughout the afternoon and night. I first noticed that the abdomen was very large, arousing a suspicion of twins, and its contour differed from an ordinary pregnant uterus in labor, not presenting the prominent globular form generally seen, being markedly oval in shape and extending high up into the epigastric region. Upon palpation the abdomen felt smooth and tense. In the left inguinal region was

a protuberance resembling a head, but larger. The foetal heart sounds were faintly audible some distance above this. Digital examination revealed the vagina hot and swollen, and the os sufficiently dilated, but none of the foetal parts could be distinguished until the whole hand was introduced, when a large, soft tumor was felt much like a caput succedaneum. The examination occasioned great pain.

The os uteri was not at first sufficiently dilated to allow the whole hand to pass through, but yielded in a little while to gentle dilatation with the fingers. The membranes were intact and in close contact with the presenting part, which covered the whole pelvic brim at the superior strait, dipping into the true pelvis but slightly. The hand could more readily be passed over the side where the occipital bone of the foetus was felt, but passed with difficulty in front of the head, which seemed about eight inches in diameter, and upon this fact I based the diagnosis of hydrocephalus. The examination did not arouse any uterine pains. Complete inertia continuing, Dr. Howard A. Kelly was summoned to perform craniotomy. Not being fully informed as to the grounds of my diagnosis he came prepared to perform Cæsarean section, if there was any chance for the life of a sound child; but after a careful examination he was satisfied, from the great size of the head and the sufficient size of the maternal parts, that nothing but craniotomy was feasible. The large head could easily be outlined by palpation, lying in the first position, extending from the left side below up toward the right hypochondrium, and above it to the left lay the displaced small parts.

The patient was anæsthetized with chloroform, the external genitalia and vagina were washed with a solution of hydrarg. bichlor. 1 to 2000, the bladder was catheterized, and the head perforated by a large guarded trocar in the presenting posterior fontanelle. A stream of limpid liquid gushed out which was collected in a vessel at the bedside, draining on to Dr. Kelly's obstetric cushion, upon which the patient lay in the dorsal position. As the fluid drained away the abdomen grew visibly smaller. Gentle pressure above the pubes increased the current, which at the last was admixed with some blood. The abdomen was now quite relaxed, and by gentle traction on the tissues of the skull with a flat, duck-bill, bone forceps, the head collapsed and was easily drawn down, and the child delivered. The placenta followed immediately by gentle expression, after which the vagina was again douched with a weak solution of bichloride and the patient returned to her place in bed, perfectly comfortable and composed, without any pulse elevation.

The child proved to be a monstrous female measuring in length 66 centimetres (26 inches). Size of the head from chin to vertex 21 centimetres; occipito-frontal 41 centimetres. After the parts were restored as nearly as possible to their natural position, by filling the head with wood shavings, it measured as follows:

Occipito-frontal circumference .	$22\frac{1}{2}$	inches.
Occipito-mental " .	$23\frac{1}{2}$	"
Cervico-bregmatic " .	$19\frac{1}{2}$	"
Fronto-mental " .	16	"

The fluid contained in the skull measured five pints. The anterior fontanelle was about the size of a man's hand, the nails well developed.

The mother made a speedy recovery, and was with difficulty kept in bed after the fourth day. Her first child, born about eighteen months previously, was perfectly healthy and the labor natural.

Judging from the history I believe she had been in labor for two weeks when I saw her. The uterus made regular attempts for many days to expel its contents, but being unable to force this enormous head into the pelvis was finally exhausted and complete inertia followed.

The history justifies the opinion that had a careful examination been made at the time when the vomiting began she would have been relieved earlier, and the great risks she ran materially diminished.

The obstetric cushion is an oval rubber sheet with an inflatable rim, open on one side where fluids are discharged and conducted by an apron into a bucket. By means of its use, the constant douching and free discharge of fluid, as well as the discharge of blood and placenta, were kept from the bed and patient's clothing, and she was at once returned perfectly clean to a dry bed after the completion of the delivery.

The specimen is well preserved, and is now in the possession of the Mütter Museum at the College of Physicians.

11<sup>th</sup> HANCOCK STREET, PHILA., December 30, 1887.

#### ASEXUALIZATION AS A PENALTY FOR CRIME.<sup>1</sup>

BY ORPHEUS EVERETS, M.D.

A MEDICAL correspondent of the Cincinnati *Lancet-Clinic* of October 15, 1887, referring to a suggestion by Dr. Agnew, that emasculation as a penalty for the crime of rape would be followed, if inflicted legally, by satisfactory results, approves the suggestion, as if this penalty were novel and untried; and asks if the subject cannot be brought before the Academy of Medicine for discussion, with a view to influencing legislation for its adoption.

Having given the subject of emasculation a good deal of attention in the course of twenty years' constant association with, and study of, one of the several defective classes of society—not, it is true, as a contemplated penalty for the crime of rape—but as a possibly important factor in the great social problem of lessening the burden of society by bettering the condition and lessening the number of the defective classes, I beg leave to submit a proposition imperfectly embodying conclusions arrived at, and to offer in support a brief and desultory commentary.

<sup>1</sup> Read before the Cincinnati Academy of Medicine, February 27, 1888.

The proposition may be formulated thus:

Surgical asexualization of all criminals convicted of offences that, circumstantially considered, indicate constitutional depravities that are recognized as transmissible by heredity, is not only practicable, but expedient for the protection of society from the ever impending danger of invasion by the "savages of civilization," known as the vicious, criminal, or defective classes, and would, properly enforced, eventuate in an effectual diminution of crime, and reformation of criminals.

The scope of this proposition is much broader than that contemplated by Dr. Agnew and the *Lancet-Clinic* correspondent, and is based upon considerations much more complex and comprehensive than a species of revenge, naturally suggested to persons whose civilization is but a veneering, for all offences against the written and unwritten laws of society regulating commerce of the sexes, and often practised by outraged or enraged avengers of hymeneal infidelity, or family dishonor; as, for example, by the relatives of the noble but unfortunate Heloise upon her priestly lover and seducer, Abelard, whose name, inseparable from hers, filled for centuries so large a page in the history of true love's constancy and martyrdom.

In order to comprehend more fully the purport of the proposition submitted, it may be well to consider carefully the following facts, viz. :

(a) Among all undeveloped peoples, punishment for offences, criminal or otherwise, is retaliatory, vindictive, and cruel, the primary purpose being to gratify revengeful feelings by the infliction of pain upon the offender, and secondarily, to terrify others by the exhibition of cruelty and power. Further on in the history of human progress ideas of compensatory justice appear, and an eye for an eye, and a tooth for a tooth are demanded, or certain equivalents, not in kind, are made acceptable, as punitive, for misdemeanors affecting rights of property, or for minor offences affecting the rights of persons.

(b) But, step by step with the evolution of morals, characteristic of, and inevitably concomitant with higher reaches of human development especially appreciable within the last two or three centuries, the disposition to punish criminals by way of retaliation—blood for blood, a blow for a blow, and burning for burning—has been undergoing well marked modification. The tendency has been, and is, in all civilized states called Christian, toward, not toleration of crime or forgiveness of criminals, but a more charitable, because more intelligent, consideration of the relation of criminal conduct to antecedent and concomitant conditions affecting the lives and character of the guilty, and a recognition of the duties imposed upon society growing out of such relations.

We have reached a plane of perceptions, indeed,

in this country, where such considerations and recognitions have displaced, to a great extent, ancient ideas of retaliatory or compensatory justice, and the nature of responsibility of individuals growing out of their relation to society.

The question with us in considering any new proposition respecting criminal jurisprudence now is, not what kind or degree of torture inflicted upon the guilty will satisfy the indignation or appease the anger of offended innocence, or intimidate most effectually the evil minded and criminally disposed, but what kind of treatment shall criminals receive at the hands of society consistent with its self-protection, that is likely to eventuate in a general betterment of their conditions, and consequent improvement of their disposition? In other words, by what methods of punishment, the most kindly and considerate, can society be most effectually protected from injury and apprehension, crime most effectually diminished and prevented, and criminals most effectually reformed?

In proposing asexualization as a penalty for crime, the foregoing question has not been overlooked nor evaded; hence the use of the term asexualization as implying its applicability to both sexes, instead of emasculation, as applicable to men only. Hence, also, the extension of its applicability to an entire class of offenders, however varied their crimes, instead of its limitation to such only as do violence to the laws governing the commerce of the sexes.

Would a penal enactment embodying the proposition under consideration answer the demands of civilized society as above indicated? If so, it should be unhesitatingly adopted. If not, it should be as unhesitatingly rejected. It is my present belief that it would; that in accordance with physiological and psychological facts and principles, such consequences would follow the intelligent enforcement of this proposed method of treating criminals, as would, after a time, fully vindicate the wisdom of its adoption. In support of this affirmation, the following considerations are respectfully submitted, viz.:

(a) The conduct—speech and action—of all living beings is expressive of the organic instincts, capabilities, and appetencies indicative of the necessities or desires of such beings.

(b) The organic instincts, capabilities, and appetencies of all living beings, indicative of their necessities and desires, manifested by their conduct, speech, and action, may be classified under one or the other of two heads, as pertaining either to the "love of life" or the "love of sex;" the end of the one being preservation of self; the end of the other being reproduction of self, the end of both being perpetuation of the race.

(c) Man is not an exceptional being as to his becoming, subsisting, reproducing, or disappearing, individually, or as a race; differing only structurally and functionally from other living beings of the

order to which, zoologically considered, he belongs, to the extent of certain modifications of organs and function, common to the order, effected by disuse or increased activity of such organs in adapting themselves to new uses, under the pressure of ever-increasing capabilities and necessities, aided by the fixing quality of heredity. Therefore all human conduct, however exalted or debased, whether in pursuit of gain or glory, power on earth or heavenly approbation, or gross and grovelling gratification of the primary senses, may be referred to one or the other of these organic loves—the love of life or the love of sex.

(d) The love of life precedes, outlasts, and is stronger than the love of sex. Beginning with the specialization of matter as a living being, it continues and increases through all the stages of growth, diminishing with retrogressive motion, to disappear only with the final dissolution of the individual.

The love of sex develops with the development of sexual capabilities, appearing comparatively later in the growth of the more highly organized and intellectually capable beings, growing stronger with the natural growth and exercise of functional capabilities, to culminate and diminish, leaving but a memory, long before the limit of individual expectation of life has been reached.

(e) By far the greater exhibition of vicious conduct, including crimes, characteristic of the defective criminal classes of society, pertains to that period of individual human existence remarkable for the activity, strength, and domination of the love of sex; and is intimately related thereto, as well as associated therewith. Witness, for example, the daily chronicle of crime, of homicide, suicide, defalcation, embezzlement, etc., ascribed directly to sexual influences, or motives associated with sexual love. Witness also the vices of intemperance so often associated with and instigated by sexual excesses, or unsatisfied sexual desires; of prostitution maintained by lust; of gambling with delusive hope of gain to satisfy immediate wants growing out of the requirements of sexual relations, etc., and the nameless disorderly sensations, emotions, and imaginations leading or driving multitudes crimeward, that originate in sexual disturbances, whether of deprivation or excess.

(f) The physical or structural, and consequently psychical characteristics of the defective classes of society, manifested by well-marked proclivities to mental disorder, vice, or crime, developed under circumstances often to be regarded as unfavorable for such manifestations, are reproducible, and being constantly reproduced, perpetuated, and multiplied, with a tendency to exaggeration, by intermarriage of persons of like defects, according to the recognized laws or uniformity of results of the activities of living matter called heredity.

(g) Society can protect itself from the danger threatened by the criminal classes by either destroying their capabilities to inflict injury upon others, or by changing their desires, and, consequently, their purposes, by which their actions are instigated and controlled.

(h) The deprivation of animals, including man, of reproductive capabilities, effects well-marked modification of characteristics, or changes of desires, purposes, and actions, as an inevitable sequence of altered conditions, capabilities, appetences, and necessities of the altered being, without destroying capabilities and consequent desires for the maintenance of individual existence, hence practical usefulness. Such modifications, if begun early in life, are invariably manifested by gentler and more dispassionate manners, freedom from sudden and violent emotional disturbances, and less self-assertion and obstinacy of disposition.

(i) Nature's method of improving a species or variety of living beings is by selection, through sexual love, of the most lovable for purposes of reproduction, the most lovable being always the strongest, most capable, and most beautiful; and the assertion of strength or capability in the struggle for existence, in which the fittest, most capable survive, and the unfit, deficient, perish.

If these affirmations are all true, as I believe them to be, then certainly no other method could be devised for the suppression of crime and reformation or improvement of the criminal and defective classes of society than this proposed—the asexualization of all convicts whose crimes, circumstantially considered, indicate constitutional depravities transmissible by descent from parents to offspring, together with such legal restraints as may be found necessary to complete its efficiency.

Let us examine its promising features a little more closely, and in detail. For purposes of intimidation it presents features second only in degree of repulsiveness and terrifying power to the death penalty itself. Multitudes of men derive nearly all conscious pleasure from the indulgence of sexual appetites, and hence regard such indulgence as the chief end of being, or value of existence. The loss of sexual ability, as a token of manhood, as well as a source of exquisite enjoyment, would be contemplated with abhorrence, and avoided, if possible, by all sane men.

For purposes of reformation, it presents features more promising than any other known method, because it is in accordance with the great facts recognized by science—that all feelings, desires, purposes, and, consequently, all conduct is definitely related to antecedent relations of living mechanisms, and may be permanently modified by permanent modifications of such mechanisms or organs. Other methods—"moral instruction" of convicts in prison,

etc.—are too slow and uncertain for practical purposes.

But the most important of all the features of this proposition to asexualize all constitutionally depraved convicts, is that which promises surely, however slowly, to diminish the number of the defective classes of society by limiting, to the extent of its application, the reproductive capability of such classes. For this purpose it has no practicable competitor. It is in the line of nature's suggestion, aiding "natural selection" by destroying the productive capabilities of the "unfit," instead of, as we are now doing, carefully preserving them by public benefactions from their own tendencies to dissolution, and complacently permitting them to multiply and accumulate by unrestricted reproduction.

It may be asked—significantly, I admit—Why not capital punishment, once for all, and have done with it? Because, I answer, the death penalty, however promptly and thoroughly efficacious as a means of contributing to a more certain and rapid disappearance of the unfit and survival of the fittest, goes beyond the necessities of the case, or the requirements of nature, and destroys the man, while emasculation only "alters" him. Furthermore, whatever may have been the effect of the death penalty in the progress of society from a savage state to its present civilization (and there can be no question of its great value in times past), it has been gradually forced, by growing sentiments of disfavor, into narrower ranges of usefulness, until now, instead of being extended to all manner of crimes and misdemeanors, from wilful murder to petty theft or trespasses, it is limited in most States to two or three grand offences, and by some States utterly abolished.

It is, in fact, only when the subcuticular ancestral savagery of our natures is aroused by some extraordinarily atrocious crime, such as the assassination of Garfield, or the murder of policemen in Chicago, that we hear a general clamor for the blood of the offenders. And even in such instances public sentiment is by no means unanimous in favor of killing the convicted criminals.

It may be safely inferred, therefore, that the death-penalty will never be restored to favor sufficiently to obviate the necessity of more efficient measures than have as yet been adopted by civilized States for the reformation of convicts and diminution of the defective classes of society.

Imprisonment alone for short terms at labor, or in solitude, however cruel or humanely practised, with "moral instruction" or without, protects society but partially, and for short intervals, and fails signally to reform the imprisoned, or diminish the numbers of the classes to which they belong. Were each man or woman returned to society from our

penitentiaries deprived of reproductive capabilities, how different would be the story.

Public sentiment might not sustain such an innovation. The public sentiment of the future is destined to be more and more informed by science, and will eventually adopt its suggestions in matters of state-craft and social economy, including criminal jurisprudence, as well as in all other affairs of life.

This world with its inhabitants is slowly but surely moving into a new and more brilliant light, and freeing itself from the shadows of ancient errors and modern superstitions. Already the hilltops of science are luminous, and men of intelligence and learning no longer dwell in an atmosphere of gloom, peopled with imaginary beings, gods, and demons, and multitudinous ghastly survivals of ancestral chimeras, standing in the relation of invisible causes of all visible effects, but moving ever on and up toward the greater light, realize the fact that with every step taken, vision becomes clearer and more comprehensive, and that positions may be occupied to-day with safety that but yesterday seemed to be dangerous, if not inaccessible.

## MEDICAL PROGRESS.

*Loreta's Operation upon the Stomach.*—Digital dilatation for fibrous stricture of the pylorus, which was first practised by PROF. P. LORETA, of Bologna, in 1822, has already in his hands given most satisfactory results in a large number of cases. The *Riforma Medica* of February 18th contains an account of a case in which the operation was recently performed by Dr. Loreta, which is of special interest, owing to the detailed way in which it is reported. In January last a man, fifty-four years of age, but looking much older, owing to his wasted and careworn appearance, came under the professor's care, with the following history: He had been excessively intemperate both in eating and drinking, and had suffered from severe dyspepsia since 1872. In 1880 he began to be troubled with vomiting, which occurred regularly four or five hours after taking food. The stomach was visibly dilated, and a splashing sound could be heard on succussion. Microscopic examination of the vomited matters gave negative results; neither blood, starch-granules, nor sarcinae could be detected. No tumor could be felt in the hypochondriac or epigastric regions; the abdomen yielded readily to pressure with the hand, which, however, caused a slight amount of pain. At the place where this tenderness was most pronounced, a hard fibrous cord was felt at a point corresponding to the situation of the pylorus. On January 30th, after washing out the stomach with an alkaline solution, Professor Loreta made an incision along the linea alba, from the xiphoid cartilage to the umbilicus, and exposed the stomach, which was drawn partly out of the wound, and opened about midway between the greater and lesser curvatures. The index finger was then passed into the viscera in the direction of the pylorus, through which, however, it could not be pushed. A large-sized urethral bougie, and afterward an oesophageal sound were then passed through into the

duodenum. By this means the stricture was so far dilated that the operator was able to get his finger through the pylorus and draw it over almost to the abdominal wound. The index of the left hand was then also passed through on the right as a guide. The pyloric orifice was then dilated by forcible divulsion with the two fingers, a proceeding which the tightness of the stricture rendered very difficult. Finally, the wound in the stomach was closed by continuous, and that in the abdominal wall by interrupted, suture, and an antiseptic dressing was applied. On February 9th the wound was healed, and the patient had completely got rid of his troublesome symptoms. Digestion was perfect, vomiting had entirely ceased, and the man had lost the look of suffering which had been so marked before the operation. Dr. Maurizio Bufalini, who reports the case, says that not a single instance of relapse after Loreta's operation has yet been heard of.—*British Medical Journal*, March 3, 1888.

*Formulae for the Local Treatment of Whooping-cough.*—The *Revue Gén. de Clin. et de Thér.* of March 1, 1888, reports the following useful formulae:

Quiniae hydrochlor.	· · ·	1 part.
Acid. benzoic.	· · ·	3 parts.

Boric acid may be used as

Acid. boric. pulv.,	· · ·	equal parts.
Finely pulverized coffee.	· · ·	

Bismuth,	· · ·	
Bismuth. subnitrat.	· · ·	2 parts.
Benzoin. pulv.	· · ·	1 part.

The salicylate of bismuth may be combined in

Bismuth. salicylat.,	· · ·	
Benzoin. pulv.	· · ·	ää gr. 75.
Quiniae sulphat.	· · ·	gr. 15.

Also

Sodii salicylat.,	· · ·	
Benzoin. pulv.	· · ·	ää gr. 75.
Quiniae sulphat.	· · ·	gr. 15.

These powders should be as fine as possible, and may be blown into the nostrils through an ordinary soft rubber tube.

*The Treatment of Diphtheria by Mercurial Fumigations.*—CORBIN, in the *New York Medical Journal* of March 10, 1888, describes his method of treatment as follows:

I insist, when possible, that the patient be in a room where the sunlight has free entrance, that the temperature of the room shall not be lower than seventy-five degrees, and that the air shall be kept moist by the evaporation of water. During the time of the fumigations the patient receives no medicine whatever. At the beginning and end of a fumigation, milk-punch or wine is given. This I insist upon. A child's crib with barrel-hoops across the top, secured, and over these spread a flannel blanket, makes a suitable canopy or tent. In the case of a child eight or ten years of age I volatilize from forty grains to a drachm of the mild chloride. I keep the child under the canopy twenty minutes, when the blanket is removed. This is repeated every two or three hours during the first day. After this period I expect to find the cough loosened,

giving directions to prolong the intervals of the fumigations, and at once to resort to them if the cough tightens. I have had cases where they had to be continued for over a week, but not more than two or three each day. The aphonia may not disappear for a week or two, but this need excite no alarm. Let the patient receive the most thorough alimentation. The fumes are not offensive, and as a rule the child makes no resistance after the first fumigation. Generally the patient falls into a refreshing sleep, and sometimes he will point to the lamp, indicating that a fumigation is desired. The lamp had better be powerful enough to volatilize a drachm of calomel in one minute. The lamp I have constructed does this. By this means the air of the tent is not raised to too high a temperature for respiration.

*Colored Light in the Treatment of the Insane.*—DR. PONZA, medical superintendent of the lunatic asylum at Alessandria (Italy), reports some experiments which he has made on the effect of colored light on lunatics. The idea was suggested to him by the observations of Robert Hunt on the favorable effect which light transmitted through violet-tinted glass had on the development of animals and plants. Dr. Ponza selected rooms with as many windows as possible, and he had the walls painted of the same color as the window-panes. A patient suffering from melancholia, who would not eat, was placed in a room with bright red walls and windows; in three hours he became quite cheerful and asked for food. Another lunatic, who always kept his hands over his mouth to keep out air and nourishment, was placed in the same room, and the next day he was much better, and ate with a hearty appetite. A violent maniac was placed in a blue room and became quiet in an hour. Another patient, after spending a whole day in violet-colored room, was completely cured. Theoretically this appears to be a very interesting experiment, but we have good reason to believe that in practice it is of little real service. It had one very good effect, which was that it induced the medical men who were making the experiment to spend a good deal of time and attention on the patients who were under treatment. One German medical man who visited Alessandria, said it was "most excellent for the doctors." It is probable that in some future day electric light may be used for the darker parts of asylums, and then we shall be able to see whether electric light will serve to develop vitality in men as it has been proved to do in plants. In many persons of unsound mind the whole vital energy is defective, and the medical officers often feel a sad want of something which will produce energy. Stimulants of one kind and another are tried, and do some good; but we should welcome some more general natural means of improving the general health. The asylum physician looks to food, warmth, and exercise, as his great assistants; and if electricity, or blue or yellow rays, can be added, so much the better.—*British Medical Journal*, March 3, 1888.

*Sciatica Caused by Varicose Veins.*—QUÉNU, at the Surgical Society of Paris, reported that he had observed closely very many cases at the City Dispensary, and his opinion was well formed on the fact. In sixty-seven patients who had varicose veins, eleven suffered from sciatica, which disappeared with rest, and especially when the patient took the horizontal position. As treatment, M. Quénú

recommended that the patient should wear an elastic stocking reaching up to the groin. M. Berger said that the above remarks were interesting, as the number of patients who have varicose veins is very great. At the same time he thought that the stocking as advocated by M. Quénú, is attended with considerable inconvenience, inasmuch as he had observed that it leaves its position and rolls like a tight cord around the thigh, thus impeding the return of the circulation.—*Medical Press*, February 29, 1888.

*Poisoning by Aconitine.*—*Les Nouveaux Remèdes*, No. 4, 1888, reports an interesting case of fatal poisoning by aconitine, in the following prescription:

Quiniae sulphat.	.	.	.	gr. 24.
Morph. hydrochlorat.	.	.	.	gr. $\frac{1}{2}$ .
Aconitin.	.	.	.	gr. $\frac{1}{100}$ .

In six wafers.

Death occurred after taking the second wafer, the patient being a woman suffering from neuralgia.

Investigation revealed the fact that each wafer contained  $\frac{1}{100}$ th of a grain instead of  $\frac{1}{1000}$ th as intended. The druggist, instead of dividing *each ingredient separately* into sixths, had divided the mass into sixths, and then put each mass in a capsule. Inasmuch as  $\frac{1}{100}$ th of a grain could not readily be weighed, especial care was indicated in dividing the whole amount ordered. The authorities censured both physician and pharmacist.

*A Convenient Dressing in Circumcision in Adults.*—BALDWIN describes in the *St. Thomas's Hospital Reports*, vol. xvi. p. 198, his method of dressing the penis, as follows:

When the patient is etherized the outline of the posterior border of the glans is marked on the skin with an aniline pencil. The skin of the prepuce is slit and removed up to the aniline line. The mucous membrane is next cut away, leaving only a free edge of about one-eighth of an inch in width. Any bleeding which occurs should be entirely arrested and asepsis must be insured by frequent sponging with carbolic or sublimate solutions. Numerous horsehair stitches are then inserted, so as to bring accurately together the fresh-cut edges of the skin and mucous membrane, and subsequently, after a further sponging and drying, a piece of gauze two layers in thickness, and wide enough to reach from the root of the penis nearly to the meatus, is wrapped *loosely* round the penis, and secured by several applications of the collodion brush. The setting of the collodion is hastened by the use of a fan, so that the air is kept in motion and the patient should not be allowed to recover from the anesthetic until the dressing is quite firm and hard.

In this manner the penis is protected by a kind of carapace, and the patient is relieved from the pain and tenderness attendant upon contact with the bedclothes or other objects. In fact, the organ can be handled as if no operation had been performed. It is hardly necessary to add that erections, which are under the usual conditions so painful, cannot occur.

The patient never had any discomfort from first to last, and the day after the operation put on his trousers without my leave, and expressed himself as desirous of taking a long walk or of going to business.

The points to note are :

- (1) The operation must be aseptic.
- (2) The gauze should be applied loosely.

The dressing can be made to extend, at the will of the operator, as far forward as the meatus externus. Half an inch, however, in front of the corona is ample. If the dressing has been put on rather tightly, and some swelling of the glans beyond the dressing occurs, this can be combated by an extension of the collodion dressing forward to the urethra, or by the constant use of iced dilute subacetate of lead lotion. When necessary, the dressing can be easily removed by slitting it up by means of blunt-pointed scissors. It is usually worn for about a week. As yet I have never found it necessary to apply it a second time.

*Naregania Alata*.—HOOPER is quoted by *L'Union Médicale* of February 21, 1888, as introducing to the notice of physicians this plant, a native of Malabar. It is used in infusion and decoction by the natives for bilious disorders and rheumatism. An alkaloid, naregania, is derived from the bark, which is an active anti-dysenteric remedy and emetic, resembling ipecac : its dose for these conditions is fifteen grains. In small doses it is expectorant. It may be given in powder or tincture, the wine is inert.

*Acute Hydrops Amnii following Nervous Shock*.—HUMPHREYS reports the following interesting case, in the *Lancet* of February 25, 1888 :

Mrs. S., aged thirty-three, in her ninth pregnancy, stated that she first felt the foetal movements on October 5th. On the same day her mother was seized with a stroke of apoplexy in her house, dying the next day. The patient was first seen on October 15th. The abdomen was then greatly distended with fluid, which had been gradually collecting since the 5th, and was very tender. She now appeared to be in the ninth or tenth month of pregnancy. There were considerable dyspnoea, some palpitation, and a small weak pulse; there was also considerable lumbar pain. The abdomen measured twenty-one inches between the superior spines of the ilium, and was very tense. Dr. Galabin saw her with me on the 17th at 9 P. M., and agreed with the diagnosis of hydrops amnii, recognizing the presence of twins. The membranes were at once ruptured, nine pints of fluid escaping. The uterus contracted well, perhaps in consequence of a dose of ergot given earlier in the day. The twins were born the following morning, before my arrival, at 9 A. M. There was only one placenta, there being one chorion and two amnions. There was free direct communication between the veins of the two cords. The half of the placenta which belonged to the second foetus had several apoplectic clots in it, and the fluid in the unbroken membranes was "very dark in color, like blood."

*Terebene*.—The following formula is a convenient method of administering terebene :

Terebene . . . . .	1 part.
Glycerine . . . . .	15 parts.
Cognac,	
Syrup. simpl.	q. s.

The mixture should contain 32 of terebene.—*Les Nouveaux Remèdes*, No. 4, 1888.

*The Solubility of Saccharin*.—CRESPIE gives the following interesting information regarding saccharin, in the *Provincial Medical Journal* for March, 1888 :

In cold water saccharin is only slightly soluble; in water of the temperature of 120° Fahr., it is only moderately soluble; while even in boiling water it is not perfectly soluble, but when the solution is neutralized, and carbonate of soda or carbonate of potash is added to it, the solubility is greatly increased. When saccharin is added to a solution of carbonate of potash, or of carbonate of soda, carbonic acid is freely given off, and a compound of soda or potash salts with saccharin is formed. It is found that these salts are nearly as sweet as saccharin itself, and as they are soluble they are far more convenient to use. One tabloid is fairly equivalent to a lump of white sugar. He finds that it is better to put the tabloid into the cup, and then add the hot coffee or tea, and finally the milk. In a week one would get used to saccharin tabloids, and not miss the more familiar, though hardly more palatable, cane or beet-root sugar.

Alcohol, which will dissolve so many substances on which water alone will hardly act at all, will also dissolve saccharin, and no doubt in time the manufacturer of pure unadulterated sweet wines, cordials, and liqueurs, will not forget to add it to his armory. Mosso has carefully investigated the subject, and finds that one gallon of 10 per cent. alcohol will dissolve 378.7 grains of saccharin; one gallon of 40 per cent. alcohol will take up 1391.6 grains; one of 80 per cent. will hold 2550.5; while absolute alcohol will only suspend 2118.9 grains. The reader will notice that an 80 per cent. mixture of alcohol and water takes up the largest amount of saccharin; it is, by the way, often curious, but true, that the strongest solvent, as at first sight it appears, answers worse than a weaker form of the same solvent. Saccharin is also abundantly soluble in warm glycerine. At a temperature of 224° Fahr. saccharin melts, and then is partially decomposed and gives off a characteristic odor. Professor Stutzer, of Bonn, tells us that one grain of saccharin will distinctly sweeten 70,000 grains of pure distilled water.

*The Use of Creolin*.—SPAETH is quoted by the *Wiener medizinische Presse*, No. 8, 1888, in reporting his results with creolin in hospital practice at Frankfurt. He employed commonly gauze dipped in two per cent. emulsion of creolin, over which he placed compresses of wood-wool or gutta-percha tissue. His cases included six severe burns, five varicose ulcers, and repeated applications of creolin to wounds which had failed to heal by first intention, and which contained sluggish, exuberant granulation. Healthy granulations formed more rapidly than under any other treatment. In a case of pyæmia following amputation of the thigh, the patient was succumbing to septic infection, and the antiseptic dressings commonly used, served to increase the necrotic process. Under treatment with gauze saturated with two per cent. emulsion of creolin, a favorable reaction occurred in two days, and recovery ensued in twenty days. Spaeth has never seen symptoms of intoxication, such as often follow carbolic acid poisoning. Eczema was never caused by creolin. Spaeth is inclined to believe that creolin belongs to the benzol group. The absence of irritating effects from creolin seem to render it a most desirable addition to our means for dressing wounds.

*The Treatment of Sleeplessness.*—DR. ECCLES, in the *Practitioner* for March, 1888, concludes an interesting article on the treatment of insomnia as follows:

The hot bath, the hot abdominal compress, with or without previous kneading of the belly, or the whole wet-pack modified to suit the requirements of the case, and all of these followed by the most rigid observance of the recumbent position in a warm bed placed in a quiet, cool, well-ventilated room, so arranged that direct or reflected light, whether from fire or candle, shall not disturb the patient, have been found almost invariably successful aids to sleep in the different disorders of this function not dependent on pyrexial or severely painful conditions which have come under the notice of the writer. And even in cases of severe sciatic and trigeminal neuralgias the wet-pack has been employed with good results; but for the various derangements of sleep included under the general term insomnia, these expedients are only temporarily useful to initiate, as it were, the permanent restoration of the rhythmical healthy repose of mind and body of which those for whom they have been employed stood in so great need.

To effect this permanent restoration of refreshing sleep a method of treatment is needed which must break the chain of vicious circumstances under whose thrall the patient has lost the power to sleep. The brain, in these cases often found to have been overworked, must be allowed to lie fallow as far as possible; the stomach, which has generally suffered with the other organs of digestion from the most extraordinary maltreatment, must be coaxed back again to a regular performance of its duties; while the muscular system, which has become wasted and inert from long disuse, must be called upon to fulfil its digestive and excretitious functions, so long left in abeyance. Under the combined influence of the recumbent position in a quiet room, away from the cares of domestic, social, or business life, carefully modified diet, and massage applied as a therapeutical agent, not without regard to the mode, duration, and extent of its administration, the methods of treatment referred to above may be carried out with the happiest result in the majority of cases.

*The Constitutional Treatment of Endometritis.*—CHÉRON has found the following formulæ useful in treating the constitutional disorders requiring attention in chronic endometritis:

A mild and efficient laxative—

Sulphur. sublim.,						
Magnesia calcin.	.	.	.	aa	3	2½.
Potass. et sodii tartrat.	.	.	.		3	5.

Picric acid may be given for anorexia, when ordinary remedies fail:

Acid. picric.	.	.	.	.	1/8th	to	1/6th gr.
Aquaæ	.	.	.	.	1	quart.	

A small glassful to be taken with common red wine at meals.

To allay persistent nausea

Potass. bicarb.,						
Potass. bromid.	.	.	.	.	aa	gr. 30.
Aquaæ commun.	.	.	.	.	3	15.

of this a teaspoonful is to be placed in a glass, and to it a tablespoonful of the following mixture is to be added:

Acid. citric.	.	.	.	.	3	1.
Syrup. simpl.	.	.	.	.	3	1.
Aquaæ commun.	.	.	.	.	3	30.

The dose may be repeated every half hour or hour until nausea is relieved.

For the nervous symptoms of chronic endometritis the following was found useful:

Tinct. valerian.	.	.	.	3	2½.
Spirit. melissæ.	.	.	.	3	3¼.
Aquaæ menth. piper.	.	.	.	3	12½.
Spirit. aetheris	.	.	.	3	10.
Aqua destillat.	.	.	.	3	30.

Dose three or four drachms daily.

A sedative lotion may also be used, as follows:

Alcohol. camphorat.,						
Glycerin.,						
Chloroform.,						
Tinct. menth. piper.	.	.	.	equal	parts.	

One or two teaspoonfuls should be poured upon flannel and friction made over the seat of pain.—*Revue Gén. de Clin. et de Thér.*, March 1, 1888.

*The Treatment of Diphtheria by Applications of Carbolic Acid.*—The Paris correspondent of the *British Medical Journal* of March 3, 1888, writes that at a recent meeting of a medical society GAUCHER read a paper on the treatment of diphtheria by removing the false membranes, and cauterizing the places from which they were taken with a concentrated solution of carbolic acid. He dissolves 75 to 150 grains of carbolic acid in 2½ drachms of alcohol, and adds to this mixture 4 to 5 drachms of camphor, with a small quantity of oil. M. Gaucher obtained excellent results with this treatment in two cases. M. Joffroy stated that he employed chloral as a local application in diphtheria. This substance has more powerful parasitic properties than carbolic acid. M. Joffroy washed the throat with a two per cent. solution of chloral; he then applied a one-fifth solution to the false membranes, which disappeared; the throat remained ulcerated; the application of the solution was continued. By this means diphtheritic angina is transformed into erythematous angina. This treatment could not be applied to children. M. Gaucher stated that he had tried chloral, but had found carbolic acid more efficacious. M. Blachez believed that false membranes might be destroyed in a less painful manner with petroleum oil. M. Gaucher remarked that the special object of his treatment was to destroy the false membranes in order to prevent secondary infection. M. Richard stated that the addition of one half per cent. of tartaric acid rendered carbolic acid much more powerfully antiseptic.

*Gymnema Sylvestra, a new Therapeutic Agent.*—The bitter taste possessed by certain drugs, notably quinine, is often found a serious obstacle to their being prescribed for young children, and it has long been held to be desirable that we should possess some powerful agent of agreeable flavor, capable of disguising such taste. Saccharin was supposed to be a near approach to this end, but there is, apparently, a still more promising agent

likely soon to be available, in the shape of gymnemic acid, derived from an Indian plant, the *Gymnema Sylvestra*. A few drops of this substance largely diluted with water will, it is said, if taken into the mouth, entirely destroy the power of tasting sweets or bitters swallowed in from two to four hours afterward. Gingerbread eaten under these circumstances produces only the hot taste of ginger to be perceived, and ordinary quinine sulphate leaves the sensation merely of so much chalk in the mouth. Its discoverer, Dr. D. Hooper, states that the acid bears many resemblances to chrysophanic acid, and in his opinion it will be found of much service in disguising the nauseous taste of many pharmacopœial preparations.—*Medical Press*, March 7, 1888.

**The Treatment of Uterine Fibroids.**—The theories and practice of Apostoli have led to much discussion on the treatment of fibro-myomatous tumors of the uterus, more conveniently termed uterine fibroid disease. This method, like everything else in the universe, is the effect of a cause. In this case, the cause is the danger of amputation of the uterus, balanced by the uncertainty of palliative measures. Electricity is a fascinating middle course between physic, often so impotent, and the knife, often so fatal. A fibroid uterine tumor may assume gigantic proportions, and cause serious trouble; but its increase in bulk is never rapid, in the same sense that the growth of a cyst or a sarcoma is rapid, and the menopause is often its limit. Yet it may be the source of pain, menorrhagia, and often troublesome and dangerous symptoms. Then operative measures are suggested. In the case of hysterectomy or oöphorectomy, the operation is always perilous, and depends, perhaps more than any other surgical operation, on the experience as well as the mere skill of the operator. Hence gynecologists turn to palliatives or electrolysis. With respect to palliatives, it is certain that almost any rational treatment tends to reduce the size of a large fibroid tumor. Rest, moderate purgation, and the administration of ergot without any of those incompatibles with which it is often given, all appreciably affect tumors of this kind for a time. Authorities of the negative or expectant school believe in Woodhall Spa. The amount of benefit derived from palliative treatment is ever uncertain, though permanent arrest of the tumor is occasionally effected. When an operation is contemplated, the choice lies between oöphorectomy and hysterectomy. Surgeons without special experience too often look on oöphorectomy as an easy and safe operation; but the facts have shown that, in the case of fibroids, it is often difficult or impossible, and that when possible it is perilous, owing to the difficulties experienced in securing the pedicle. Enucleation during abdominal section is not justifiable. Hysterectomy may be performed as an intraperitoneal or an extraperitoneal operation. The intraperitoneal variety is logically the better, but it is extremely dangerous. No surgeon can calculate how to tie each suture firmly enough to check hemorrhage, yet not so tightly as to cause sloughing or tearing of the thread through its track; still less can he guard against contraction or relaxation of the uterine tissues around the uterus after the return of the stump into the abdominal cavity. The extraperitoneal operation is less dangerous; but it requires nerve, dexterity, and experience, at least of other surgeons' practice. Statistics are absolutely worse than useless as

guides to surgeons devoid of special experience; and decision, sad to say, is too frequently qualified by personal predilection for some operation, or by dislike for another. Unconscious hypocrisy often influences inexperienced operators. Apostoli's electrolysis is fascinating because, unlike palliative treatment, it means "doing something;" whilst many believe that it involves neither the difficulties nor the risks of operation. Experience is proving, however, that Apostoli's method requires great skill and demands many precautions, and that it is not altogether free from danger. As to permanent results, even so respected an authority as Dr. Keith depends upon the words of another, and that other is Apostoli himself. The conclusions to which we are led by the above facts are that palliative treatment is the only course which a practitioner without special experience can justifiably pursue in the case of uterine fibroids; and that the relative merits of oöphorectomy, hysterectomy, and electrolysis can only be decided by experts.—*British Medical Journal*, March 10, 1888.

**An Elixir of Paraldehyde.**—The following formula has been used with moderate success, though many physicians who have tried paraldehyde have given up its use, chiefly from the disagreeable breath acquired by those who take it:

Paraldehyde . . . . .	fʒij.
Spirit of chloroform . . . . .	fʒij.
Tinct. of vanilla . . . . .	fʒss.
Syrup of raspberries . . . . .	fʒss.
Aromatic elixir . . . . .	enough to make fʒiv.

Dose for adults, two fluid-drachms, containing one fluid-drachm of paraldehyde.—*American Druggist*, March, 1888.

**Retrograde Catheterism.**—The *Medical Press* states that at a recent meeting of the Paris Academy of Medicine, M. Tillaux related such a case before the Société de Chirurgie, which is full of interest. A man, aged forty-three, came to him suffering from a cicatrical stricture of the urethra, the consequence of falling *à cheval* on a piece of timber. Having found it impossible to introduce a sound, M. Tillaux tried external urethrotomy, but without better success. He then determined to cut down on the bladder over the pubes and perform catheterism from behind. After much trouble he succeeded, and the patient made a good recovery. M. Schwartz said that in a similar case he plunged a large curved trocar through the prostate into the bladder with every satisfaction. Several other members spoke in the same sense.

**Salicylate of Bismuth in Dysentery among Children.**—HALE, of the Philadelphia Polyclinic, has attained excellent results in the use of the following prescription:

R.—Bismuth salicyl. . . . .	fʒij.
Tr. capsici . . . . .	gtt. xiij.
Spts. ammon. aromat. . . . .	fʒiss.
Pulv. acaciæ . . . . .	ʒij.
Aq. cinnamomi . . . q. s. ad.	fʒij. M.

Sig.—Teaspoonful every two hours, for a child from three months to one year of age.—*The Polyclinic*, March, 1888.

# THE MEDICAL NEWS.

A WEEKLY JOURNAL  
OF MEDICAL SCIENCE.

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SATURDAY, MARCH 31, 1888.

## A CÆSAREAN REVOLUTION IN PROGRESS IN THE UNITED STATES.

FOR a number of years prior to December, 1886, which now appears to have marked a turning point for the better, there was a gradual increase in the mortality of both women and children in Cæsarean cases in our country, until the death-rate reached for the three years preceding the above date, 93 per cent. of the former, and 87 per cent. of the latter. In the year 1884, there were six operations, without the saving of a woman or child; in 1885, there were five, saving one woman and one child; and in eleven months of 1886, four, with one child saved; the entire year, saving one woman and two children. Under fifteen operations, fourteen women and thirteen children were lost.

Prior to December, 1886, there were nine Cæsarean operations in American hospitals, under which not one woman was saved; seven of the children were extracted alive, of which one lived thirty-two hours; another, a few days; a third, thirteen days; and a fourth and fifth, a year each. The initial hospital operation was performed at Bellevue, New York, in 1860, by Prof. Fordyce Barker, upon a woman who had been two days in labor; was affected with pelvic exostosis, and bore the marks of syphilis. The child only was saved; grew to be a fine healthy girl, and may possibly be still living. Not one of the nine hospital cases can be said to have been in a *favorable* condition at the time of the operation, and one was actually moribund.

The Sänger method of closing the uterine wound was adopted in three operations, but the cases succumbed notwithstanding, in consequence of their unfavorable character; one being the subject of cancer; another, much exhausted by a long labor; and the third, weak and anæmic from ante-partum hemorrhage.

With hospital case No. 10, December 16, 1886, commenced a new era in our maternity Cæsarean deliveries, as the operation was elective, early performed, and saved both mother and child, who were reported as alive and in good health on March 8, 1888. The woman had been three times delivered by craniotomy, and being anxious to have a living child, willingly entered the Huron Street Hospital, of Cleveland, Ohio, for the purpose of saving the fourth, by the Cæsarean section. Here she was operated upon according to the Sänger method, after a labor of twelve hours, and before the membranes were ruptured, by Prof. H. T. Biggar, who employed sixteen uterine sutures. The patient was a dwarf, of four feet high and sixty-five pounds weight, who belonged to Columbiana County, in which there were two successful Cæsarean sections, in 1833 and 1834.

Hospital operations 11, 12, and 13, were all performed in 1887, in Bellevue, by Prof. W. T. Lusk, saving all of the women and two of the children; the third child dying of tetanus in thirty-six hours, due probably to a head injury, from long uterine pressure; all were Sänger operations. Case 11 has been reported, the others have not been. Cases 11 and 12 were in labor but a short time; but case 13 was in the sixth day of her suffering when received. She made a slow and remarkable recovery, with several almost fatal drawbacks, as will be seen when the case is reported. Prof. Lusk gives great credit for his final success to the Sänger method, and its careful technique.

Hospital operation 14 was less fortunate in its results, as only the child was saved. The woman was of African blood, and twenty years old, and was under the care of Dr. L. Ernest Neale, in the Lying-in Hospital of the University of Maryland, Baltimore. Attempts were made to deliver her by the Tarnier forceps as modified by Prof. W. T. Howard, by which the foetal head was very seriously wounded. After a labor of fourteen and a quarter hours, during which a trial of over an hour was made with the forceps, the operation was performed as by the original method of Sänger, muscular resection and

separating the peritoneum being found necessary to secure symperitoneal closure. The patient never rallied, and died of shock in forty-four hours. Wounds ununited; that of the uterus unhealthy in appearance. In attempting to avoid the use of the knife, the case was made unfavorable for success.

Hospital case 15 was operated upon in good season, at the Maternity of Blackwell's Island, New York, in February, 1888, by Prof. Henry J. Garrigues, with entire success to mother and child. Six deep and eight symperitoneal sutures were used. The particulars of the case will shortly be given by the operator. This was his second operation, the first having been performed in October, 1882, upon a woman prostrated by ante-partum hemorrhage, and bearing a recently dead foetus. We heartily congratulate him upon having had this time a favorable case for the operation, and for his success in its management.

Besides the six hospital cases related, there were five in private houses, making eleven, in a period of fifteen months, eight of which were in 1887. All of the operations were by the method of Sänger but one, although in some the technique was not rigidly adhered to. Six women and eight children were saved, or 54 $\frac{6}{11}$  and 72 $\frac{8}{11}$  per cent. respectively. Of the five cases operated on in private practice, only one recovered, although three children were saved. This is reversing the experience of the past, where all cases saved were private, and all in hospitals died. To show that the change for the better in the last fifteen months is a remarkable one, we have only to go back over our record prior to December, 1886, until we find six operations that were not fatal, and we will note the fact that we have passed over a list of thirty cases in chronological order, covering eight years, under which only nine children were saved, or one more than out of the last eleven.

We are now beginning to realize practically the benefits of *early operating*, as in contrast with the dangers of *delay*, so fully demonstrated in the past. The adoption of the Sänger method, with the use of the Esmarch tubing, and asepsis, failed, until with them were associated the avoidance of futile attempts at delivery, and a recognition of the importance of prompt action in the use of the knife. We pointed out the dangers of continued uterine action long before the Sänger method was introduced, and we are more than ever convinced that the early union of the uterine wound will depend very much upon

the sound or unsound condition of the muscular tissue and endometrium, to preserve which in their integrity there should be a moderate degree only of contractile action, no internal manipulation or use of extracting instruments, and the child should be vigorously alive. We admit that women do recover after long labor, the use of instruments, version, craniotomy, and the presence of a putrid foetus *in utero*; but, on the average, an early elective operation will be much the safer, and be followed by the most rapid recovery. "*Shock and exhaustion*," so often recorded as the cause of death, really begin in a condition which exists prior to the operation, and is exhibited by an elevated temperature, rapid pulse, and great bodily weakness. In fact, the woman is worn out by muscular effort and the endurance of suffering, and the prognosis of her case, in view of a severe abdominal operation, must be unfavorable. A case regarded as a "favorable" one at the time when a Cæsarean operation is undertaken, will sometimes die; but such are much less likely to do so than "unfavorable" ones are to recover.

*The fear of a fatal result under gastro-hysterotomy has had much to do with making the result fatal.* But for this the operation would have been much more frequently early and elective, instead of late and compulsory. We have been too much influenced by English writers and statistics, which are antagonistic to the Cæsar-cut, and favor craniotomy. German successes have at last created a feeling in favor of the former and against the latter in our country, the fruits of which are seen in the saving of four women in succession in New York in a period of eleven months. We are now enabled by the results in our own hospital cases, to show what may and ought to be done, with equal credit, in private practice, particularly in the open country and smaller towns, where, in our early days, the least mortality occurred.

What is wanted now is a better acquaintance with pelvimetry, and the steps of the improved operation, as it is performed in Leipzig, Dresden, and New York. The coming reports of Zinke, of Cincinnati, and Lusk and Garrigues, of New York, will furnish valuable practical instruction to those who ought to be fully informed upon this important abdominal operation, so as to be ready in a case of emergency, to meet its requirements with skill and promptness. When the record of the first hundred Sänger operations is published, many readers will be astonished at its marvellous results, particularly in Germany,

and at its low rate of mortality as compared with the Porro-Cæsarean section. Thus far the United States count fifteen cases, with nine deaths and ten children saved; not a very creditable record as compared with that of Continental Europe; but we have commenced to improve it, and hope to continue in the future.

#### VACCINATION AGAINST TYPHOID FEVER.

CHANTEMESSE and VIDAL communicated to the Société de Biologie, at the meeting held March 3d, some interesting observations on vaccination against typhoid fever. They claim that in mice inoculated with cultures of typhoid bacilli a disease is produced, with lesions the same as in human typhoid fever. Mice inoculated with bouillon in which colonies have lived, but which no longer contain the bacilli, resist subsequent inoculation with the most intense typhoid virus. From the large number of observations, this would seem to be well established. On the other hand, mice inoculated with bouillon in which indifferent microbes had grown, such as the bacillus subtilis, did not resist, and were not in the slightest degree protected against the typhoid virus. The saturation of the organism with the soluble chemical substance produced by the typhoid bacillus granted immunity from the effects of the fresh virus. The observations are of value as illustrating the influence of organic substances produced by the growth of bacilli, and they indicate, too, the direction in which we may hope for practical results from bacteriological work.

#### THE NEW SURGEON-GENERAL OF THE NAVY.

THE President has nominated Dr. John M. Browne to be Surgeon-General of the Navy, to succeed Dr. F. M. Gunnell, whose four years term in that office expired on March 26th. Dr. Browne is a native of New Hampshire, entered the Medical Corps of the Navy in 1853, and received his commission as Medical Director in 1878. He was the surgeon of the "Kearsage" during her memorable fight with the "Alabama," and his description of the battle, published in *The Century*, is a very graphic bit of war literature. After the war he was for several years on duty on the Pacific Coast. Since 1879 he has been on duty in Washington. He organized the Naval Museum of Hygiene, and was in charge of it for the first five years of its existence, and he was the delegate from the Medical Department of the Navy to the International Medical Congresses of

London and of Copenhagen. The Medical Department of the Navy is to be congratulated upon his appointment, for he is a skilled executive, an accomplished medical officer, and a cultivated gentleman.

THE roll of graduates in medicine has been increased during the past fortnight by the following additions: University of Louisville, 100; Baltimore Medical College, 17; and College of Physicians and Surgeons, Baltimore, 77.

THE leading physicians of Massachusetts have just sent a remonstrance to the State legislature against the passage of any law allowing the manufacture of illuminating gas containing more than ten per cent. of carbonic oxide, as the intensely poisonous properties of that element of gas are well known, and are dangerous to health and life.

COMMISSIONER BAYLES, of the New York Board of Health, in an official communication, warmly praises several of the medical members of his staff, who were not deterred, even by the weather of that terrible Monday (March 12) from attending to their duties. One of them, especially, who has to deal with contagious diseases, is referred to enthusiastically by the Commissioner as a hero, both physically and morally, for the energetic and oftentimes ingenious work performed by that inspector in going to remote places for cases of smallpox, and removing them to the hospital, under difficulties that seemed almost insurmountable. There were others of the medical inspectors who did not spare themselves, even during the highest stress of the blizzard, while looking after their cases of contagious disease. Acts of devotion to duty, less than these, would in some countries be promptly recognized by the award of some form of medal or decoration, here they are taken for granted and presently forgotten.

A COMMITTEE, representing the undergraduates, the Hospital staff, and the Faculty of the Medical Department of the University of Pennsylvania, has been formed to arrange for a celebration of the fiftieth anniversary of Prof. D. Hayes Agnew's graduation in medicine. It is proposed to have, on Tuesday, April 24th, a jubilee meeting of the Alumni, Faculty, and students in the chapel of the University; subsequently a supper will be served in the college building. A handsomely bound volume of the autographs of those subscribing will be given

to Dr. Agnew, together with some other souvenir of the occasion. All the Alumni are invited to participate. The subscription has been fixed at three dollars, payable by check or otherwise to Dr. James Tyson, at the University, not later than April 10th.

THE New York Academy of Medicine has issued an appeal to the profession and to the public for contributions toward the erection of a fire-proof building, which is an immediate necessity for the accommodation of the Academy and its growing library. The Academy owns its present building free from debt, and has \$100,000 in its building fund. It is estimated that in addition \$250,000 are requisite to enable the Academy to erect such a building as it requires, and a large committee of professionals and laymen has been formed to solicit this amount.

DR. WHARTON SINKLER has been elected Visiting Neurologist, and Dr. Edward P. Davis Visiting Obstetrician, to the Philadelphia Hospital, Blockley.

THE Annual Address before the Alumni Association of the Jefferson Medical College, Philadelphia, will be delivered by Professor Austin Flint, of New York, in the lecture-room of the College Hospital, on Monday evening next, at 8 o'clock. Subject, "The American Medical Student."

AT the annual meeting of the Association of the Alumni of the Long Island College Hospital, held March 7, 1888, the following officers were elected:

*President.*—Charles E. de la Vergne, M.D., '78.

*Vice-President.*—F. H. Colton, M.D., '64.

*Secretary.*—H. Messenger Ayres, M.D., '80.

*Cor. Secretary.*—Robert L. Dickinson, M.D., '82.

*Treasurer.*—Charles N. Dixon Jones, M.D., '82.

The Alumni Prize of one hundred dollars was awarded to A. H. Buckmaster, M.D., '83, for an essay entitled "The Galvanic Treatment of Fibromyomata: An Experimental Research." Honorable mention was made of the essay by Charles N. Dixon Jones, M.D., '82, entitled, "Etiology and Pathology of Rachitic Deformities, with Report of One Hundred Osteotomies without Suppuration."

## REVIEWS.

THE YEAR-BOOK OF TREATMENT FOR 1887. 12mo. pp. 340. Philadelphia: Lea Brothers & Co., 1888.

THIS is a most valuable review of current medicine for English-speaking practitioners. It surpasses the

majority of books of its kind in that it is a critical review in which the element of criticism is of practical value. Its list of reviewers contains the names of many English medical men well known in America, whose names are a promise of good material.

The objections raised against manuals and summaries we do not think apply in this case; the book is not intended as a text-book, and it is not a labor-saving device for the benefit of students; but it is such a survey of the field of medicine that each reader cannot but find matter of value in his especial field of study. The mass of medical literature which is current is so desparingly great that to have the gist of it, with a reference to the original, and a thoroughly competent review as an indication of its value, is an unspeakable blessing to one who has the ambition to keep up with what the world is learning in medicine.

## SOCIETY PROCEEDINGS.

### NEW YORK NEUROLOGICAL SOCIETY.

*Stated Meeting, March 5, 1888.*

THE PRESIDENT, C. L. DANA, M.D., IN THE CHAIR.

DR. DANA presented the report of a case of

#### THOMSEN'S DISEASE,

with specimen of muscle, in some respects a typical case. The patient was a male, thirty-five years of age, single. He had been delicate as a child and at fifteen or sixteen had masturbated, but not to excess. At fourteen years he had developed talipes varus in the left leg, but tenotomy had been performed with cure. The symptoms of the disease in question had not appeared until the twentieth year, when the patient had commenced to notice stiffness of the hands and difficulty in opening the hands when closed; also stiffness of the leg and of the muscles of mastication. The patient tired easily, especially in the arms. Until recently he had had a high-pitched child's voice and a child's larynx. Erections were incomplete, and there was mental difficulty in concentrating his thoughts. The muscle development was good. Measurement around the biceps gave ten inches in both arms. The dynamometer showed forty degrees in the right hand and thirty-eight in the left, the normal measurement by the reader's dynamometer being forty-five to fifty. There were tonic contractions of the calf muscles and of the pillars of the fauces. Striking the muscles of the arm or forearm caused tonic contractions in these muscles. Striking the biceps with the percussion hammer would cause a welt and a myoid tumor as well. There was no increase of irritability to mechanical stimulation in the nerves. By galvanism Erb's reaction was obtained. There was increased muscular irritability and a closure tonic contraction which persisted as long as the current continued to be passed. There was closure tetanus both to the cathode and the anode. There was no opening contraction to either pole. A peculiarity of the reaction to faradism was that in the arm the contractions persisted after the current ceased to be passed. There was no ankle clonus, no increase of the reflexes, and no spastic condition. In the eye the fundus was normal, but there was a fibrillary contraction of the

muscles of the lid. There was vaso-motor weakness, the hands and feet were red, and easily became cold.

A piece of the supinator longus had been removed, and for comparison a piece of the same muscle from the reader's own arm. These specimens had been placed in weak alcohol and stained with picro-carmine and bismarck-brown. The specimen taken from the patient showed increase of the nuclei of the sarcolemma, an increased number of fibres, and in addition a dichotomous division of the fibres, such as was found in the muscle of the heart. This was characteristic of Thomsen's disease, and was supposed to indicate reversion to an earlier type. The tonic contractures of this disease, too, were characteristic of unstriped muscle fibre.

DR. GEORGE W. JACOBY had examined the specimens and compared them with the specimens from his own case. He did not consider this the typical case which Erb's monograph had described. Erb had excluded all of the published cases but eight. Erb's typical case showed no disease of the central nervous system. In Dr. Dana's case there was at least a suspicion of such disease. The reactions of the muscles, too, were incomplete or failed to comply with the requirements as given by Erb. The speaker did not, however, believe in Erb's lines. He thought they are too close. While this case did not come under the heading as limited by Erb, it did come under the name as understood by others. Erb's theory is that of a disorder of the muscles themselves, a congenital malformation of the muscular system. If the fissuring of the muscles and the increase of nuclei in the case under discussion were dependent upon a central affection, this alone was an interesting fact. It would demonstrate that microscopically alone, a diagnosis of myotonia congenita could not be made. Our knowledge of primary muscle affection is not yet on a solid basis. It was possible that there was first trouble in the central nervous system from which the other proceeds.

DR. C. HEITZMANN had examined the specimens with a low power, and had been impressed with the belief that this was not a genuine case of Thomsen's disease. In the typical case the nuclei of the muscles were augmented. The reader of the paper had made Erb's mistake when he spoke of the nuclei of the sarcolemma. The sarcolemma is a structureless membrane. There was also augmentation of the sarcoblasts or muscle corpuscles. There was too much muscle substance from the earliest period. Hence, the name myotonia congenita. Dr. Dana's case, on the contrary, could not be called congenital, as the disease had not developed until the twentieth year. Second, the muscle fibres were not distinctly augmented in size. If compared with those in Dr. Jacoby's case the difference was marked. Third, the fissuring was not prominent. For these three reasons he was loath to accept the diagnosis. He was, on the other hand, unable to tell what else the condition could be.

DR. EMMERSON had examined the eyes. There was no insufficiency of the muscles, and the pupils had reacted properly.

DR. STARR realized that we could not yet lay down any positive deductions in regard to electrical reactions. In degeneration we got the pure reaction of degeneration, an intermediate reaction of degeneration, and the normal muscle reaction. Erb had given the reactions for three cases only. Other cases might not substantiate their results. He considered Dr. Dana's case valuable, and

one to be put on record. For reliable data a large number of cases are required. Even Dr. Heitzmann's objection of muscular anomalies is not fatal to the theory of its being a case of Thomsen's disease.

DR. DANA explained that he had not called the case one of myotonia congenita, but an atypical case of Thomsen's disease. It remained to be proved whether myotonia is always congenital. He had recently seen a case which commenced at the eighth or tenth year. Since Erb's book, four additional cases have been reported besides his. He agreed with Dr. Heitzmann that the enlargement of the fibres was not positive. He had, with a stage micrometer, measured the fibres in the specimen from Dr. Jacoby's case, in that from the case under discussion, and in that from his own arm. He had found the fibres in the first  $\frac{1}{10}$  to  $\frac{1}{8}$  of an inch broad; in the second,  $\frac{1}{8}$  to  $\frac{1}{4}$ ; and in his own,  $\frac{1}{4}$  of an inch. Thus, in the case under discussion, some of the fibres were larger and some smaller than the normal. The increase of the nuclei, however, was, in some of the specimens, shown typically as in Erb's plate. He acknowledged that the fissuring might have been produced artificially by tearing. Electrically there was greatly increased irritability of the muscles, both to galvanism and faradism. The contractions were tonic, with closure tetanus. There was normal excitability of the nerves. Clinically, the patient presented the phenomena of Thomsen's disease. It remained to be proved whether the phenomena of Thomsen's disease could be produced by disorders in which the central nervous system was involved.

DR. STARR presented a specimen of

#### TUMOR OF THE BRAIN.

The patient was a woman, at the time of her death fifty-six years of age, who for two years had presented the general symptoms of tumor of the brain—vertigo, projectile vomiting, dulness of the mental faculties, and optic neuritis. During the last five months she had been carefully observed, but without obtaining any evidence which would locate the tumor, if one occasion were excepted, when, during an attack of vertigo, she fell forward and to the right. This was not a permanent symptom, and was the only evidence pointing to cerebellar disease. The tumor was of the size of a hen's egg. It was found on the under surface of the tentorium, simply resting upon and compressing one lobe of the cerebellum. There were no adhesions, and it was unfortunate that no symptoms had pointed to its location, as it might have been easily removed. In 1878, Nothnagel had remarked that tumors of the lateral lobes of the cerebellum did not give rise to the symptoms of incoordination common to other cerebellar tumors.

DR. J. WEST ROOSEVELT presented the report of a case of

#### BASEDOW'S DISEASE, WITH AUTOPSY.

The case was one of negative interest. The patient had been admitted to the wards of Roosevelt Hospital, May 25, 1887. The patient was a female, widowed, forty-seven years of age, a housekeeper. Both the personal and family history were good. Two years before admission, the patient had commenced to complain of palpitation, dyspnea upon exertion, and swelling of the throat, which was largest upon the right side. The patient could not lie upon the right side. In the course

of a year the eyes commenced to protrude, and at the time of entering the hospital she had a profuse watery diarrhoea.

The pupils were found to be equal, the reaction to light and accommodation good. The lids did not follow the eyeballs. The neck measured thirteen inches around the lower thyroid region, and ten and a half inches around the upper thyroid region. There was dysphagia to solid food. The pulse was 100 to 120, and the respiration 38. The apex beat was found in the fifth space, mammary line. There was epigastric pulsation, and the area of dulness was slightly increased. There was a short systolic murmur at the apex. There was a systolic thrill over the jugulars, and a continuous venous hum. The pulmonary resonance was exaggerated. The veins of the retina pulsated, the arteries did not. There was no tension. The patient lived until May 31st. She suffered from a watery diarrhoea and restlessness, but was not otherwise sick. In walking to the bath-room, one evening, she fell dead. Autopsy showed the thyroid reduced in size, but still moderately enlarged, and of a pink color. The kidneys showed a trace of fibrous tissue, but otherwise the organs were normal. There was apparently nothing abnormal in the medulla, nor in the sympathetic or vagus nerves. Microscopic examination of these parts also showed nothing.

DR. W. O. MOORE had seen twelve cases, all females, average age forty years, the youngest thirty-one and the oldest forty-five years. Ophthalmic examination had showed simply enlargement and tortuosity of the blood-vessels. Great relaxation of the bowels had been present in one of the cases, having as many as ten evacuations in the day, which it was impossible to control. Electricity had been of no avail in these cases. All had presented the three characteristic symptoms—exophthalmos, thyroid enlargement, and rapid heart action. All had the symptom to which von Gräfe first called attention, namely, a disturbance of the usual coördination of the movements of the eyeball and the upper lid, so that when the patient looks downward below the horizontal meridian, the lid no longer follows the eyeball in its motion, but halts in its course. This fault in the action of the lid was supposed to be due to some defect in the orbicularis, and was not present in cases having prominent eyes from other causes. Occasionally the prominence was so great as to cause the eye to be exposed at all times, both when waking and asleep. In one case in his experience, suppuration had occurred, and the eye had been lost.

The patient, a female, aged forty-five years, stated that when a child she had lost the sight of the right eye through an accident, that one year before coming under observation she had noticed commencing enlargement of the neck, dyspnoea upon exertion, and prominence of the left eye. Six months later, vision for near objects commenced to fail, and four weeks before coming under notice the left eye had become painful and inflamed. Examination, December 13, 1886, showed in the right eye phthisis of the bulb, total corneal leucoma, and exophthalmos so marked that although the eyeball was atrophied the lids were as full as in the usual healthy state. The eyelids on this side covered the globe fully when shut. In the left eye the exophthalmos was so great that the lids were retracted to their full extent, and the eyeball was dislocated through the commissure of the lids. The ocular

conjunctiva was chemotic, and the cornea was cloudy through its whole extent. At the upper border of the cornea was a serpiginous ulcer. In other words, there was present a keratitis from loss of nutrition and exposure to the air. The pulse was irregular at 110. The patient was admitted to the Post Graduate Hospital, the outer canthus was cut, hot water applications were made, and the parts were protected by lanolin. In spite of treatment, perforation took place, with escape of the vitreous and lens. The eye began to recede, and phthisis bulbi developed.

Had this case been seen earlier, the writer would have united the upper and lower lids, thus covering the eyeball. At the end of a few weeks the lids would have been reopened, when, as a rule, the exophthalmos would be found improved, and the corneal trouble removed. For constitutional treatment, the patient should receive digitalis, ergot, and tonics. This case was remarkable from the fact that an eye was lost by suppuration, and that this loss was associated with phthisis in the other eye. The loss of an eye from exposure is so rare that the writer knew of but ten reported cases in this country, while Wells reports only one case.

DR. STARKE had been interested in the report of Dr. Roosevelt's case. The fact that no lesion had been found in the sympathetic in this case, did not, of course, prove anything conclusive. Ross had reported eight cases in which such lesion had been found out of twelve cases, as far back as 1882. The pathology, however, was not clear. It was difficult to understand how any one lesion could produce all of the phenomena of this disease. The hypothesis accepted by Gowers was that of lesion of the vagus nucleus in the medulla. The rapid pulse would be accounted for by the loss of the inhibitory power of the vagus. It was known, too, that vasomotor disturbances were produced by irritation of the medulla in this region. The speaker had some time ago collected twenty-one cases of lesion of the medulla, in eight of which the lesion was in its upper part, in the region of the nucleus of the tenth nerve. In all these cases there were subjective flushings and objective increase of perspiration; while in the thirteen in which the lesion was in the lower part of the medulla there were no vasomotor symptoms whatever, thus substantiating the hypothesis of physiologists that there is a vasomotor centre in the medulla, and that this centre is in the neighborhood of the nucleus of the tenth nerve.

He had personally observed seven cases, five in the female and two in the male. In all but one, palpitation of the heart had been the first symptom. This disproved the theory that the goitre was primary, and that the other symptoms were due to the pressure of the tumor upon the pneumogastric nerve. The pulse had ranged between 90 and 155. In all but one the eyes had been prominent. In six there had been nerve symptoms, in four tremors, in four von Gräfe's symptom, in six flushes. Mental disturbance had been present in one case, in which there had been delirium every night for several months, and subacute mania for several weeks. The first symptom in this case had been insomnia, which resisted treatment. The reader supposed it to have had its origin in a condition of the vessels of the brain similar to that in the back of the eye and the thyroid gland. Digitalis had done no good in his experience. Ergot and bromide had quieted the tremor, but no drug which he had tried had reduced the heart.

He had used electricity according to Benedict's recommendation, but without result. He had himself when in Vienna, watched the treatment of three cases in which Benedict had given a good prognosis, but had failed to find any reduction of the pulse while galvanism was being used. In his own cases he had tried every method described as galvanization of the sympathetic; he had placed the poles upon either side in front of the sterno-cleido-mastoid, behind the sterno-cleido-mastoid, and at the back of the neck and epigastrum, carrying the current as high as nine millampères, which was as strong as could be borne with a small electrode, and he had never been able to obtain any retardation of the pulse. Dr. Janeway expressed himself as having had the same experience.

DR. ROCKWELL had met about thirty cases of this disease, and in nine cases he had obtained an approximate cure. He had employed diet, galvanism, and very full doses of digitalis, bromide of zinc, ergot, and iron. He had authentic records of his results. He believed that the cases not benefited by treatment were organic and that those benefited were functional in origin. Those having all of the cardinal symptoms were more often responsive to treatment than those in which the symptoms were more incomplete. He recalled a case in which there was a pulse of 110 reduced to 80. There was puffiness of the eyelids in this case. In the galvanic application one pole had been placed over the eyelid and the other behind the sterno-cleido-mastoid muscle at its upper third. In another case, presenting the three symptoms for several years, the pulse had ranged from 130 to 150. There were dilatation of both pupils and a pulsating swelling over the solar plexus. This patient was placed upon a milk diet and persistently treated for many months, when the pulse had fallen to below 100 and the swelling of the thyroid and the exophthalmos had become less.

DR. STARR asked whether Dr. Rockwell had obtained reduction of the number of heart beats while the current was being used; also whether he had ever obtained paling of the face and dilatation of the pupils, phenomena which follow galvanization of the sympathetic when needles are used.

DR. ROCKWELL replied that he had not made his observations during the application, but that subsequently such slowing had been demonstrated. Lowering of the pulse is also a very common result of general faradization.

DR. GEORGE W. JACOBY considered exophthalmic goitre a rare disease. For eight or nine years he had seen in his dispensary from 600 to 700 neurological cases a year. Not more than a dozen of these had been cases of exophthalmic goitre. The patients had been regular in attendance, and treatment had been persistent, but he had tried every means heralded without result. Sub-aural galvanism had been without effect upon the color or the pulse. He considered the disease a hopeless condition. Bodily and mental rest furnished about all which could be done. He had tried faradism according to the recommendation of Vigouroux, but also without result.

He thought the exophthalmos the least constant symptom. Where goitre is present one side of the neck is usually larger than the other. Some say that the right is always the larger. This he could contradict, as in a case which he had recently seen with Dr. Birdsall, the

enlargement had been equal upon both sides. Von Gräfe's symptom is not always present. Tremor is often the first symptom. In one case in his experience tremors had existed for a year before the development of the other symptoms. At the end of the second year these had become well-developed and bronzing of the skin also was present.

Vigouroux has stated that the electric resistance is diminished in all cases and even in the commencement of the disease. This, if true, would be an important diagnostic point. In 20 cases published by Wolfenden this lowered electrical resistance was present. Two of these cases are published in full. In one of the latter the resistance was only 300 ohms. It was mentioned that there was profuse sweating in this case. In the second the resistance was 200 ohms. Of this case it was said that there was clamminess of the surface and sweating. In the other eighteen cases the resistance was from 500 to 1300 ohms. The speaker said that the standard of resistance, however, varied according to the method used. It had been given as high as 300,000 to 400,000 ohms by Jolly. Gärtnner gave it as 30,000 to 40,000 and here we estimated it as at 1000 to 3000 or 1000 to 4000; he had recently tested the resistance in three cases, his method having been to place the body in the circuit, the electrodes being equal in size, and wet. When the galvanometer needle ceased being deflected the body was taken out of the circuit and a resistance-coil inserted until the deflection of the needle was again brought to the same point. The amount required equalled the resistance of the body. Comparative observations were at the same time taken upon himself. The first case was that of a female twenty-eight years of age with exophthalmos, palpitation, and sweats. The resistances obtained were as follows:

Through the palms, patient . . . . .	6000	ohms.
"      self . . . . .	8000	"
"      the goitre, patient . . . . .	1200	"
"      "      self . . . . .	2400	"
Through the posterior part of the neck, patient . . . . .	1400	"
Through the posterior part of the neck, self . . . . .	2400	"

The second case, a patient of Dr. Birdsall, presented goitre with palpitations and exophthalmos, and the comparative observations were taken upon Dr. Birdsall and himself. The resistances obtained were as follows:

Patient through the hands . . . . .	5000	ohms.
"      the goitre . . . . .	800	"
Patient through the posterior part of the neck . . . . .	1000	"

The measurements in his own case were respectively 5500, 2400, and 2000 ohms; and in Dr. Birdsall's case, 8000, 1000, and 1000 ohms.

The third case:

Patient through hands . . . . .	5000	ohms.
"      goitre . . . . .	1000	"
"      neck, anterior post. 1500	"	"

Control subjects (two), hands . . . 11,000 and 10,000 ohms.  
        "      thyroid 4,000 and 3,000 "  
        "      neck . . . 3,000 and 3,000 "

The reduction was thus scarcely one-quarter, certainly not one-half, and not more than would be accounted for

by the maceration of the skin due to the abundant perspiration in these cases, or as in the goitre to the influx of blood. The speaker failed to see how any importance could be attached to the test as a symptom.

DR. DANA was surprised to hear that there was any dispute in regard to the possibility of lowering the pulse by galvanism. In a case of Basedow's disease in Bellevue Hospital, a pulse of 140 would be found lowered 15 or 20 beats after the current had been applied. The sedative effect of galvanism is generally admitted, though we cannot say whether it is produced through the pneumogastric or the sympathetic nerve. Dr. Starr's theory he thought incorrect. Lesion of the nucleus of the pneumogastric should give the same symptoms as division of its trunk, and this never gives rise to the phenomena of Basedow's disease. It might perhaps be said that this disease is due to lesion of the nucleus of the pneumogastric and neighboring parts. The speaker thought that the resistance was diminished in these cases, at least slightly, perhaps 1200 ohms. In testing, he placed one electrode in the region of the seventh vertebra and the other on the sternum.

DR. ROOSEVELT has had the same experience as Drs. Starr and Jacoby. He has used both strong currents and weak currents without any influence on the sympathetic nerve. He was surprised to hear digitalis recommended. He believed that digitalis is without value for heart failure except from organic disease. He had had five cases of exophthalmic goitre under observation. Two of these had improved, but both were cases of young anaemic girls. The measurement of electric resistance he thought a difficult problem, because the factors vary.

#### PHILADELPHIA NEUROLOGICAL SOCIETY.

*Stated Meeting, February 27, 1888.*

THE VICE-PRESIDENT, CHARLES K. MILLS, M.D.,  
IN THE CHAIR.

DR. J. MADISON TAYLOR exhibited a

#### NEW FORM OF PERCUSSION HAMMER

designed to serve as nearly as possible all ends for which a hammer is likely to be called into use by clinicians. This feature at least would, he thought, commend it. In shape it is a cone flattened on the opposite sides, with apex and base carefully bevelled or rounded, of about the thickness throughout of the human index-finger. The material is moderately soft rubber. It is held by an encircling band of metal midway between the apex and base transversely, and from it, on the edge, depends the straight handle. The handle is rigid though light, it being Dr. Taylor's opinion that this had better be under the full control of the wielder. If elastic, as recommended by some, an element of uncertainty enters in the degree of force used in the blow. The special feature of this hammer is that the shape of the striking surface is like the outer aspect of the extended hand, palm downward, which is most often used in obtaining tendon jerk. The rounded apex end is adapted to reach the biceps tendon at the bend of the arm. This last has become important in diagnosis. In fact, in the light of recent investigations, the study of the tendon jerks of knee, biceps, and Achilles tendons, of the jaw jerk as discovered by Dr. Morris Lewis, has become a valuable addition to our

means of unravelling the causes of nerve maladies. The matter is even now engaging much of the attention of the foremost writers—Jendrassik, Weir Mitchell, Lewis, Lombard, and others. Especially is this true now that the field is immensely widened by the corroborative symptom of reinforcement.

This little tool will also well serve to elicit chest sounds, to percuss the abdomen, and, in fact, is useful whenever an elastic hammer is needed. The material being of soft rubber, the blow does not hurt the intercepting fingers as does the hammer usually employed to strike the tendons and muscles. It is made by Snowden, of Philadelphia.

DR. CHARLES A. OLIVER made

#### A FURTHER DEMONSTRATION OF WERNICKE'S HEMIOPIC PUPILLARY REACTION.

It was his intention to present a patient with well-marked left homonymous hemianopsia, in whom the hemiopic pupillary reaction of Seguin could be beautifully seen, but this was not possible. He gave a rough demonstration upon the blackboard of a few observations worthy of notice. The case was seen a few weeks ago in consultation with Drs. Mills and Turnbull. The fields, which were carefully taken for form, yellow, blue, red, and green, showed the distinctive and typical limitation of hemianopsia, in which the appearance of a double bow-like curve—the smaller one sweeping around and avoiding the point of macular fixation, and the second continuing irregularly both above and below to the outside in the left field and to the inside in the right field, was plainly visible; the sequence of the fields following the order of the colors just noted. Both of the remaining fields were regularly contracted, without indentations or scotomata; the series on the left side being but one-half of the size of those on the right side, although the intensity and brightness of the colors seen in and around the macular fixation region of the left side were more vivid and pronounced. Vision for form was reduced in each eye, but slightly more so in the right: this was partially accounted for by marked astigmatism with a low degree of hypermetropia, which, upon being excluded by proper lenses, showed that its vision almost equalled that of its fellow. With or without the correcting lenses, the pupil of the right eye did not respond to light stimulus so freely as the left when equal amounts of light were projected into the interior of the organs from the different portions of the existent field areas. The pupillary reactions, which were pursued in the ordinary method of concentration of narrow, yet strong beams of artificial or natural light from various directions upon the pupil, whilst the organ was feebly illuminated to a sufficient degree to observe the actions of the irides, were not only typical of the hemiopic type, but were peculiar in the fact that in nearly all of the experiments there seemed to be an absolute ratio established between the amount of pupillary reaction and the degree of color saturation seen; this being true both in monocular action and consensual; this was plainly shown by the amount of reaction in the left iris being at least one and a half millimetres greater upon exposure of its own arc, than when its fellow arc—that of the right eye—was similarly stimulated.

Another instance which beautifully illustrates the same point, was seen in a case of brain-tumor which he ex-

amined in consultation with Drs. Keen and Mitchell, in June of 1887. There were unequal pupils corresponding in direct ratio with unequal amounts of hemianopsia, in which the greater percentage of lost color manifested itself in the smaller field; there was at least one and a half to two millimetres greater response in one or both irides when the arc holding the better color-conception was stimulated: this condition has been carefully studied, and will be combined in a forthcoming report of the case.

This observation, therefore, is of value in adding another partially objective factor to the various means employed in gaining better information in reference to the now all important question of cerebral localization, as it distinctly shows which arc has the greater amount of destructive or irritative lesion, and thus becomes an additional sign of special and distinctive usefulness.

DR. J. LLOYD presented

SPECIMENS FROM A CASE OF PROBABLE ALCOHOLIC MULTIPLE NEURITIS, WITH BRAIN INVOLVEMENT.

M. L. W., white, thirty-seven years of age, a dressmaker by occupation, was brought into the hospital February 21, 1888, in a delirious state. When first seen she was unable to move her left leg, but moved the right one with some difficulty. The day following both legs were rigidly extended, and she was apparently unable to move either. She complained of severe pains in the calves upon passive motion. The muscles of the face kept twitching all the time. The arms were constantly thrown about, the hands flexed, and the thumbs turned inward. On the night of the 22d, she became very violent, raving constantly. She would catch hold of the attendants and beg them piteously to keep her from falling. She was given, during the night, ninety grains of potassium bromide and twenty grains of chloral. The next morning she was very much depressed. She had retention of urine; about one pint was obtained by catheterization in twenty-four hours. The urine was dark colored and filled with urates, but no albumen or sugar. On account of the small quantity of urine passed, one-fourth of a grain of pilocarpine was administered hypodermatically. The abdomen was much distended with flatus. After the administration of the pilocarpine she became rather weak, and digitalis and whiskey were then given. The pulse rate became better, falling from 135 to 90 per minute. Hyoscine was then administered with the intention of securing sleep:  $\frac{1}{12}$ th of a grain was given at 9 P.M.,  $\frac{1}{12}$ th at midnight. At 8 P.M. of the 24th  $\frac{1}{12}$ th of a grain was again given. On the morning of the 24th she seemed much more rational and quiet, the hyoscine having had the desired effect, but toward noon the pulse rate again became very rapid—from 135 to 160 per minute. The lungs quickly became edematous, and she died at 1.45 P.M. of the same day. The left pupil was perceptibly larger than the right. There was little rise in temperature, the highest being about 101.6° F. During her illness she retained very little food or medicine, vomiting it as soon as it had been administered. Her bowels were constantly moving involuntarily. The heart sounds were normal but very feeble. Her family could give no account of her at all, as they had not seen her for years; they surmised that she had been leading an immoral life for a long time. She died in about twenty-four hours after she was first seen by Dr. Lloyd.

At the post-mortem examination very few gross changes

of any kind were found. There was some congestion of the pia mater, particularly along the longitudinal sinus. In addition there was marked adhesion of the dura mater.

The peripheral symptoms simulated those of multiple neuritis, and she had, in addition, a maniacal and delirious condition. She had cutaneous hyperesthesia and muscular tenderness. She had paralysis of the extensors, which is characteristic of multiple neuritis. Dr. Lloyd's opinion was that the case was one of alcoholism and not of epidemic cerebro-spinal meningitis, some cases of which latter disease have recently occurred in this city.

DR. CHARLES K. MILLS made the following remarks on THE PROBABLE OCCURRENCE OF MULTIPLE NEURITIS IN EPIDEMIC CEREBRO-SPINAL MENINGITIS.

Recently a number of cases of cerebro-spinal meningitis have appeared in Philadelphia, of which he had seen several in consultation, three quite recently, two with Dr. Cahall, of the Falls of Schuylkill, and one with Dr. Dick. They had some of the typical symptoms described by authors. The particular point to which he wished to call attention was that in two of these cases markedly, and in the third to some extent, there were symptoms which seemed to point to multiple neuritis, or, at least, to neuritis involving certain portions of the body. In one case the most decided complaint of the patient was pain and soreness in his legs. He found soreness over the nerve trunks; and also, in addition, muscular and cutaneous hyperesthesia. He also had the appearance of the legs often seen in multiple neuritis, the equino-varus position of the foot. The knee-jerk was diminished. In another case, outside of the mental condition, the pain and tenderness in the leg were the most distinct symptom. The conditions were exactly those which are regarded as diagnostic of multiple neuritis—that is, tenderness over the nerve-trunks, and pain in the muscles with tenderness on pressure. In going over the literature of multiple neuritis lately, Dr. Mills found that this affection had been associated with or caused by nearly all the infectious diseases, but no cases were reported in connection with so-called cerebro-spinal fever. In this disease we have a true meningitis, and he thought we might also have a perineuritis, or a neuritis. In some cases the multiple neuritis might alone be present. In this way certain irregular cases might be accounted for. Stillé and others refer to a neuralgic form of cerebro-spinal meningitis. The point which he wished to make was that true diffused neuritis, either alone or in connection with other conditions, probably occurred as a result of the infection.

Dr. W. OSLER had recently had an interesting case of cerebro-spinal meningitis, which proved fatal. The patient, a young girl, when admitted to the hospital was thought by the resident to be hysterical. She was nervous and twitched on attempting the slightest movement. He thought at first that it was a case of subacute rheumatism. She subsequently developed well-marked symptoms of cerebro-spinal meningitis. The case proved fatal, and the autopsy showed the characteristic lesions of the disease. There was extensive recent exudation down the whole posterior surface of the cord. In the brain it was limited to small patches on either side of the pons, but there was the most intense congestion of the cortex. It is remarkable in Dr. Mills's cases, if they be instances

of multiple neuritis, that, unlike other examples of this complication of specific fevers, the symptoms have appeared early in the course of the disease. In other affections, as typhoid fever, phthisis, and diphtheria, the neuritis appears as a late complication.

He would like to make one remark with reference to central nerve irritation producing symptoms of cerebro-spinal meningitis. There are cases of typhoid fever with marked meningeal symptoms, and he has known such cases to be diagnosed by careless observers as cerebro-spinal fever, and the autopsy had shown the specific lesion of the intestine, and only congestion of the spinal and cerebral meninges. The diagnosis of meningitis, either in the brain or the cord, may be extremely difficult. Unless the nerves at the base are involved, it may be impossible to say whether or not there is exudation. This is well illustrated in the meningitis of pneumonia, which may produce an ever-deepening coma, not to be distinguished from that which accompanies cases with intense cerebral congestion, unless pressure on one of the nerve-roots gives the clew; and this led to the diagnosis in one of the eight cases of the most intense meningitis in this disease, which were observed in the Montreal General Hospital between 1876 and 1884.

#### PHILADELPHIA COUNTY MEDICAL SOCIETY.

*Stated Meeting, March 14, 1888.*

THE VICE-PRESIDENT, W. W. KEEN, M.D.,  
IN THE CHAIR.

DR. J. MADISON TAYLOR read a paper

#### ON THE EARLY RECOGNITION OF EXOPHTHALMIC GOITRE (GRAVES'S DISEASE).

In which he called attention to the importance of early recognizing a disorder which often eludes detection, pointed out certain features which should enable us to do so, and offered in illustration, very briefly, the salient points in half a score of cases,

Exophthalmic goitre, or Graves's disease, is not a rare malady. At first it is merely a disorder, but frequently becomes a serious disease, and is known to cause death. More often it unfits its victim for active usefulness, or, at least, limits this and sadly disfigures him. Like certain other ailments the outcome of irregular nervous discharge, what in its incipiency is a very manageable complaint, produces in time a disastrous effect upon the tissues, and forms a practically unconquerable disease.

In reviewing a large number of cases in the search for a complete symptomatic picture, he found that the most constant early feature is sudden and marked evidence of loss of nervous equilibrium. The vasomotor nerves seem quite unstrung. Hence arise flushing, sweating, and other skin changes, diarrhea and transient albuminuria. If at this time a careful watch be kept, we should find irregularities in the action of the pupil. The skin usually loses its healthy hue, grows sallow or dark, and becomes greasy to sight and touch. This oily look was present in most of the cases he had seen, though he had not seen it mentioned elsewhere. Begbie recounts one case of pigmentation, or bronzing, of the skin; Reynaud calls attention to vitiligo; and Edward Squire, to a discoloration in an isolated instance. The oleaginous appearance seems to him quite constant on the face

and body. This grows less when salt sponging and belladonna form part of the treatment.

Gowers calls attention to muscular tremor. He had seen this rarely. In two of his cases there was a tremulousness in the voice, which he ascribed to nervousness, yet it is constant. The emotions become often so overwrought that various mental peculiarities excite apprehension. Or a wiser person may regard the case as one of pronounced hysteria; and, indeed, all through the malady hysteria remains present, more or less, leaving one not seldom in grave doubt. Frequently delusions occur, and these so closely in unison with the ordinary habits and thoughts of the individual as to render them most difficult of detection.

Dr. Hilton Fagge warns us to be on the lookout for "slight cases in which one or two of the cardinal symptoms may be absent throughout." Rousseau also insisted on this point. Von Gräfe expresses the opinion that among women it is not rare to find instances of this malady where the only symptoms are disordered action of the heart, not accompanied by valvular trouble or hypertrophy, nor the faulty action of the lid as described by him.

Heart disturbance most often leads the sufferer first to seek medical advice. The pulse is always quick and irritable, usually intermittent. The heart-beats, as a rule, bear surprising relationships to the pulse. Overaction of the heart is well known to be a frequent feature of anaemia and chlorosis. Ross regards the anaemia, which is usually present, as rather a result. Throughout the whole vascular system there is a manifest lack of tone. So constant is this that it may yet be found competent to explain the causation of the disorder. Certainly the graver features bear causal relation to this state. The vasomotor nerves seem all out of balance; nor can it be confined to one part, though the cervical sympathetic is most prominently involved. There are cases where limited areas not governed by the upper ganglia show derangement, as in a woman now under the care of Dr. E. T. Bruen, where one side sweats from shoulder to toe, and the opposite eye is prominent. Arterial tension varies rapidly, and unaccountably; hence the oft complained of noises in the head, amounting at times to terrific roarings. This may explain the maniacal attacks, as well as blood-splitting, thirst, and transient albuminuria.

The heart itself is rarely diseased. The overaction in time brings on hypertrophy; more commonly, dilatation. It also suffers from the general malnutrition, which is noticeable throughout the circulatory system. The small amount of structural damage which this viscus sustains is a matter for remark, however, when the profound functional disturbance is considered. Systolic bruits are commonly heard, even over the auricles and the great vessels of the neck. Dyspnœa is distressing. This, at times, even early in the history, alarms one who feels naught else to complain of.

The thyroid enlargement is liable to appear long before the eyes become prominent, but readily escapes attention. It may happen that a sense of constriction is felt when swallowing, especially in men who wear tightly fitting collars. Both lobes are, as a rule, enlarged; but if one only, it is generally the right. When recovery takes place, this badge remains to chronicle the victory.

The eye prominence is late to appear, as a rule, and it would seem to mark the height of the disorder. Before

the exophthalmos, there may generally be noted the sign asserted by von Gräfe to be pathognomonic, a belated action of the lid in following the downward movement of the ball. Sometimes the lower lid is tardy in following an up glance. This obtrusion of the eyeball is the most picturesque feature, but happily it is not constant, and is often very late. It is of both eyes, mostly, but if of one only, again the right suffers. Sight is seldom affected, except where the outstanding, unprotected cornea suffers hurt or irritation; then opacities may result. If errors of accommodation exist, this correction, in his opinion, greatly aids in reducing the exophthalmos. Fundus lesions are not characteristic; though pulsation of retinal vessels may serve to confirm suspicions.

Knee-jerks are rarely abnormal; often in slight excess. Electrical examination has been, very recently, shown by Charcot, and confirmed by Vigoroux and Norris Wolfenden, to aid greatly in foretelling the onset of this trouble, the bodily resistance being greatly lessened most peculiarly in this disease. This may prove a valuable aid in diagnosis.

Dr. Taylor then gave the notes of eight cases which had been under his observation.

The subject of treatment he hoped to discuss on another occasion. It consists mainly of rest, judicious feeding, tonics, and carefully selected sedative measures. Appropriate glasses, too, are essential; at times sharp counter-irritation, especially diuretic remedies and attention to the emunctories. Galvanism, too, has immense value in some instances, but requires judgment in selection of cases. In brief, whatever measures tend to repair the tone of the vascular system and allay nervous excitability will best bring about gratifying results.

DR. S. D. RISLEY asked whether there is any indication by which the development of exophthalmos can be expected in cases in which it has not yet appeared.

DR. J. B. ROBERTS believed that the great ocular deformity, which is so unpleasant to the patient, and attracts so much attention, can be remedied by a very simple operation: merely putting a stitch at the outer canthus, after freshening the edges of the lids, to diminish the optic commissure after the case has made such progress that it is reasonably certain there is to be no further diminution of the prominence of the eyeballs. The patient can be made more comfortable and less conspicuous.

DR. EDWARD JACKSON said that the procedure suggested by Dr. Roberts might be resorted to for other than cosmetic reasons. He recently saw a case of this disease, with very great exophthalmos, in which one eye had been lost through sloughing of the cornea due to exposure; and he afterward learned that the second eye had been lost in the same way. Such an accident might be prevented by narrowing the fissure of the lids.

DR. A. V. MEIGS knew of one person who has completely recovered from the disease, a woman who had a very severe attack many years ago, under the care of his father. The prominence of the eyes, which was very great, is now hardly noticeable, and yet no operation was ever done. He did not think much would be gained by sewing up the canthus, for while the disease is in its acute stage, it is hardly likely the operation would afford much relief, and later, if the patient recovers at all, the difficulty cures itself. He thought he knew the case Dr. Roberts had in his mind when he spoke, and Dr. de Schweinitz,

who has seen the woman in question, will probably agree with him that nothing would be gained by an operation. One thing he had learned of recent years, and it is that it is not necessary in all cases to put the patient to bed. He could mention three or four cases he had successfully treated with tonics and proper regimen, without its becoming necessary to have rest in bed; the cases, to be sure, were not severe. He did not see how a positive diagnosis can be made until we have at least two of the features of the disease present, namely, the cardiac palpitation, and some thyroid enlargement; the prominence of the eyes occasionally does not manifest itself, but a diagnosis can undoubtedly be made in its absence.

DR. G. DE SCHWEINITZ had examined the case that Dr. Meigs referred to, and he saw nothing to be gained by surgery. The eyes were at first very prominent, but they were then receding, and now the normal relation of lids to eyeballs is restored. Inasmuch as there is considerable myopia, and hence not uncommon prominence of myopic eyes to begin with, they will always be more or less conspicuous.

DR. S. SOLIS COHEN agreed with Dr. Taylor that vasomotor paresis plays an important part in the development, if not in the genesis, of this disease. The only case he had seen in the male subject occurred in a young man subject to frequent attacks of flushing of the face, sometimes accompanied with high temperature, in whom the rapidity of the heart's action had led to a diagnosis of hypertrophy of the heart, not warranted by physical exploration. The eyes were not involved at the last time he saw the patient, nor was thyroid enlargement sufficient to attract attention without special examination. He had now under his care in private practice a young lady not at all hysterical, subject to similar attacks of flushing, which sometimes leave behind for a short time wheals like those of urticaria, who has also had two attacks of sudden transient blindness, after which all that could be detected in the fundus was moderate congestion; and whose cardiac action, rapid and irregular at these times, is at other times perfectly normal. No organic lesion of any kind has been detected either by him or by more competent observers. It is possible that this may be an early stage of Graves's disease. Improvement has taken place under minute doses of picrotoxin, a drug which Dr. Bartholow has prescribed in cases of exophthalmic goitre, at the hospital, with very good results. One case especially he recalled which was associated with purpura. He would like to know whether Dr. Taylor has met with this association. A very interesting case of acute exophthalmic goitre presented at the Jefferson Hospital clinic; an anaemic young girl affected from childhood with nystagmus, in whom goitre and exophthalmos were asserted to have developed within a short time after a fall from a ladder. She was unable to button her collar, which friends had opened in attending to her after the accident.

DR. J. C. WILSON briefly narrated two cases of Graves's disease, recently seen in his private practice, in which the symptoms developed rapidly after mental shock. The patients were young women. The first, a servant, aged twenty-four, engaged to be married to a young man who was by occupation the driver of an ice cart. Within a day or two of a visit to her, he was accidentally killed, and her first knowledge of his death came through the newspapers. Cardiac overaction at once developed, and within a month thyroid enlargement, and slight exoph-

thalmos. Under rest and large doses of Fowler's solution complete recovery took place in a year. The second case was that of a lady, aged twenty, who rapidly developed the characteristic symptoms of Graves's disease after the shock and grief occasioned by the disappearance of a near and loved relative, and the discovery that he was a defaulter to a very large extent. The prominence of the eyeballs was in this case very slight; the other symptoms were characteristic. Under treatment by rest and arsenic decided improvement took place.

DR. TAYLOR, in reply to Dr. Risley's query, Does any sign clearly foreshadow the exophthalmos? could only say that he knew none, nor did he see anything in the literature of the subject to aid us. It usually marks the height of the disorder, though this may be the first feature noticed, especially when it arises suddenly, as from a shock or overwrought emotion. In reply to Dr. Meig's objection that the three classical symptoms can alone and in conjunction constitute the disease, he said that it seemed to him readily possible to recognize in the peculiar vasomotor disturbances, the extreme and unaccountable nervous excitability, the appearance of the skin, etc., the early stages of this disorder. In fact, the object of his paper was to call attention to this very possibility, so that a quietus might be placed upon it at the very beginning if possible.

In the use of galvanism we have a valuable aid in diagnosis, as Charcot and Vigorous have pointed out, but in the treatment it has not been of greater use than some other measures, though it should always be used in the severer cases.

In his endeavor to be brief he did not intend to say much on plans of treatment, leaving that for consideration elsewhere, but rather to speak of early recognition and *early treatment*, which should consist of rest, carefully regulated living, food, and tonics.

DR. CHARLES B. NANCREDE read a paper

#### ON THE IMPORTANCE OF PRIMARY SUTURE OF DIVIDED NERVES, WITH AN ILLUSTRATIVE CASE OF SUCCESSFUL SUTURE OF THE MEDIAN AND ULNAR NERVES.

The aim of this brief note is merely to call the attention of general practitioners in whose hands many of these cases will fall, to the *duty* of suturing divided nerves as a routine practice, just as we would tie arteries, and to describe a simple, effective method of carrying out the indication.

A critical examination of the histories of nearly all sections of nerves where reproduction has occurred, will show that they were removed either from a bony canal or from an intermuscular space in which they normally lay, *with the minimum* of injury to the surrounding tissues. Moreover, even when their ends have been turned back and sutured in position, or even buried in the surrounding tissues, they have been so secured in the same intermuscular space which the nerve normally traverses. In other words, the bony canals and the intermuscular spaces likewise act as moulds which direct the course of the reparative material from the proximal to the distal end of the severed nerve. In extensive wounds, however, this condition does not obtain. Intermuscular spaces are dislocated, large masses of scar tissue are formed, so that instead of the new nerve-tissue being compelled to grow in only one, and that the right direc-

tion, it has too often an insuperable barrier interposed, and union fails.

In the case which he exhibited,<sup>1</sup> the proximal ends of the ulnar and median nerves were directed at right angles to their intermuscular space, and would have been infallibly fixed between the ends of the torn muscles in a dense mass of scar tissue, resulting in permanent loss of power of the member. In the seventh month after suture—*i. e.*, the usual period required for the degeneration and regeneration of a nerve—first sensation, and then motion returned, until now, although the functions of the member are not perfect, the boy can earn his living, and do nearly all that can be effected by a normal hand and forearm.

Finally, how should the sutures be passed, and what should their material be? Fine aseptic catgut passed by means of an ordinary sewing needle is to be preferred, but fine aseptic silk can be used. Should the nerve be *very* much lacerated and frayed out, it may, perhaps, be sometimes proper to cut off a portion to gain a clean surface, but this is rarely desirable. The needle should be passed from below upward through the proximal end of the nerve at one border, across, and then passed from above downward near the opposite border, entering the needle from an eighth to a quarter of an inch from the cut end, according to the size of the nerve. The needle must now be passed from below upward through the distal portion of the nerve at the border corresponding to the last passage of the needle through the proximal end, across, and made to pierce the nerve from above downward, when the suture will be found to correspond to the free end of the thread in the proximal piece of nerve.

Gentle traction, with an appropriate position of the member will, by the tying of one knot, accurately approximate the nerve ends; in a word, by this simple method all the advantages of the two separate sutures commonly recommended are obtained with a far greater degree of security. The strictest asepsis should be secured, which is easy enough provided the wounded part, the surgeon's hands and his instruments be strictly cleansed, and the wound be freely irrigated with the bichloride and tartaric acid solution. If the surgeon gets an uncontaminated wound, it is his own fault if he has suppuration, and even with the ordinary run of accidental wounds, if he will thoroughly scrub his hands with a nail brush and hot water, and likewise treat the parts surrounding the wound, pour boiling water over his instruments, without any further antisepsis, in most cases healing without suppuration can be secured, while the omission of these details will mar results with gallons of mercuric solution flowing over the wound.

DR. H. R. WHARTON asked whether we should attempt secondary suture of the nerves when this has been omitted in the first place? He is very decidedly of the opinion that this procedure should be adopted, for a number of cases have been reported of this character, in which the results have been, at least, good enough to make one feel that secondary suture should be attempted when there is

<sup>1</sup> In this patient the brachial artery was also torn through, leaving only a bridge of muscle and skin through which collateral circulation could be carried on. The deficient blood supply possibly explains the failure of the recovery of power in the interossei muscles, although other of the intrinsic muscles of the hand which are supplied by the ulnar nerve contract well.

any probability of restoration of the use of the injured part.

DR. JOHN B. ROBERTS said the only case of nerve-suture he remembered at present is one in his wards, in which the work had very properly been done by the resident immediately on the admission of the patient. It was a rather extensive incised wound of the leg, involving the musculo-cutaneous and anterior tibial nerves. The muscles and nerves were sutured and dressed anti-septically, and the results were good; though he did not follow the case after discharge so as to make an accurate report as to sensation. Dr. Nancrede has incidentally touched upon a point of great importance, that of teno-suture. It had been his misfortune to meet with quite a number of cases in which this had been neglected by the attendant called at the time of the accident. One of these recently seen was that of a man wounded in the forearm just above the wrist, and in the ring finger. There was loss of flexion of the finger, but it was hard to tell which of the wounds to reopen in order to come upon and suture the divided tendon. The family physician believed it to be the wrist; but after cutting down, the speaker found the tendon here flaccid and intact. He then opened the finger-wound, and here found the tendon retracted into the sheath. He sutured, but did not get a good result, probably from the extent of dissection necessary to get at the tendon in the sheath, and the great mass of cicatricial tissue. However, he never hesitated to reopen healed or partially healed wounds to suture tendons when this very important measure had been neglected.

He was glad to hear Dr. Nancrede say that with cleanliness of person and of instruments asepsis can be secured without chemical solutions. This is in marked contrast to a surgeon of prominence, who thinks that the employment of solutions renders care as to cleanliness unnecessary.

DR. J. WILLIAM WHITE did not know whether Dr. Nancrede spoke of the resection of the crushed and bruised ends of the nerves. The general principles of nerve-suture are admitted by all surgeons, but the question of resecting lacerated or contused ends before suturing, or of allowing them to remain, is one that should be carefully considered in each case. On the one hand, by resection of any considerable portion we increase longitudinal tension, and make greater strain on the sutures; on the other, we run the risk of including in the stitches tissue too much damaged to recover itself. There is some difference of opinion as to the particular suture to be employed. He should think that the one proposed by Dr. Nancrede would be open to objection, if it interposes a foreign substance, the catgut thread, between the ends of the nerve; this, if not absorbed, as is sometimes the case even with the best catgut, is liable to be a constant source of irritation, and to prevent union. He preferred and employed a suture passing quite through the nerve above and below the point of union. Evidence, either clinical, or pathological, or experimental, as to the relative advantages of different sutures is desirable, but he did not know of any, and did not understand Dr. Nancrede to say there was such evidence.

DR. W. W. KEEN cited two cases from his own experience in connection with the subject:

1. A case of primary nerve suture in a boy two years of age, with perfect recovery of motion and sensation.

The case occurred ten years ago. The child, carrying a glass bottle, fell, and a fragment of glass divided the ulnar nerve and artery about an inch and a half above the wrist. The mother made compression with her thumb until he arrived, very soon after the accident. After ligaturing the artery, he examined the nerve and found that it had been divided. He had only his pocket-case containing coarse white silk and an ordinary needle. Not wishing to leave the coarse silk in the wound, particularly not in the nerve tissues, he debated as to the method of suture, and devised one which proved eminently satisfactory. Drawing the ends together closely with forceps, he passed a surgical pin obliquely through the two divisions, threw a loop of silk around the point of the pin (as in Simpson's method of acupressure), drew out the thread, passed it around the head of the pin, where it was secured. At the end of forty-eight hours the pin was removed. The thread was thus loosened and removed. Perfect union of the wound took place in a few days. There was no wasting of muscles, and motion was present after twenty-four hours. While the age of the child prevented exact observation as to the time at which sensation returned, at the end of forty-eight hours there was an exclamation of pain on pricking the little finger with a pin. He saw the father of the boy about a year ago, who told him that his son had perfect use of hand and fingers.

2. Extensive tendo-suture, with quick union. A recent case shows the value of even a brief suture of tendons. A man twenty-five years of age was admitted into St. Mary's Hospital with complete severance of all the tendons of the forearm and of the sheath above the wrist. The resident sewed each tendon carefully. He had only Kocher catgut, which does not remain more than three to five days, and then closed the external wound and placed the hand in flexion on a splint. The man left without permission after a few days, and it seems removed the splint and tore out the sutures in the skin. He returned later with a gaping wound in the forearm, but on testing the fingers separately each finger and each joint was found to have perfect motion, showing that even this temporary apposition of the divided tendons had a perfect result. He should prefer for the purpose, however, either very fine silk, or, better, the ordinary chromicized catgut.

DR. NANCREDE said that Dr. White had misunderstood him. There is nothing between the divided ends of the nerve. The nerve is securely and accurately coaptated by the suture. He had no distinct recollection of resecting the injured ends in this case, in fact, he was nearly certain that he did not. In some cases it might be desirable, but he is dubious about it. He made it a rule to suture nerves and tendons in every case, and generally obtained fair results.

## CORRESPONDENCE.

### THE CUTANEOUS EXCRESENCES FOLLOWING UNSUCCESSFUL VACCINATIONS.

To the Editor of THE MEDICAL NEWS,

SIR: Your correspondent, A. J. Comstock, M.D., in THE MEDICAL NEWS of March 10, 1888, gives his opinion of the cause of the excrescence which sometimes follows an unsuccessful vaccination. As my experience

differs from his, it may be well to record it, trusting that the true cause may, through the experiences of many, be ultimately determined.

In the early years of my practice, I collected the virus from the eighth-day vesicles of healthy infants, on quills which I had scraped just before applying them to the punctured vesicle, in order to secure their cleanliness. I was particular not to take the lymph when I had pricked the tissues and drawn blood, but applied the quill directly to the drops of lymph as they escaped from the punctures in the vesicle, and seldom touched it to the surrounding skin. If, on the eighth day, the pock had assumed a pustular character, and the surrounding skin began to inflame, I did not collect the matter, as it was not considered safe to use it.

I never saw the excrescences until I commenced vaccination with bovine virus. Since then I have probably used as many ivory points as quills. I have never scraped a quill charged with vaccine matter, and put it on the scarification. I think the excrescence has appeared as often after the use of the ivory point as after the quill, which would disprove the hypothesis of quill-grafting.

My explanation to those who have witnessed the appearance, and have been alarmed by it, has been that the skin of the calf was ingrafted with the vaccination. I give it as an opinion, undemonstrated. The fungous character may be due to the number of cells thus ingrafted, or to the stimulus of scarification to the normal skin. If viable cells are mixed with active vaccine, their viability may be destroyed in all successful vaccinations: hence, their appearance only when the vaccination is ineffectual.

I have had manifold more failures with bovine virus than with the humanized vaccine when I cultivated it for my own use. I hope the culturists of bovine virus will inform the medical profession whether or not they observe as much caution in collecting the matter, avoiding the blood and irritated tissues of the heifer, as I was taught to do, more than thirty years ago, when collecting from the healthy infant; and further, whether they collect the matter when it appears purulent, or after the inflammation has surrounded the pock.

Respectfully, N. W. LEIGHTON, M.D.

148 TAYLOR ST., BROOKLYN, N. Y.,  
March 19, 1888.

## OBITUARY.

### WILLIAM BENJAMIN GOLDSMITH, M.D.

WILLIAM BENJAMIN GOLDSMITH, M.D., Superintendent of the Butler Hospital for the Insane, at Providence, R. I., died at that place, March 21st, in the thirty-fifth year of his age. The fatal disease was acute pneumonia of seven days duration.

Dr. Goldsmith was born at Bellona, Yates Co., N. Y. He graduated in the Arts from Amherst College, Massachusetts, in 1874. The next year he spent at the Willard Asylum for the Insane, as a medical student, under the special instruction of Dr. John B. Chapin. He then took a course in general medicine at the College of Physicians and Surgeons, N. Y., for two years, graduating in 1877, and ranking among the first ten in his class. After a brief service at the Presbyterian Hospital in N. Y., he became

second assistant at the Bloomingdale Insane Asylum, where he remained two and a half years. The next year he spent abroad, pursuing the study of his specialty at the West Riding and Royal Edinburgh Asylums. In October, 1880, he returned to Bloomingdale as First Assistant, and in March, 1881, when twenty-eight years old, was appointed Superintendent of the Insane Asylum at Danvers, Mass. At the end of three years he resigned intending to go abroad. His resignation, however, was not accepted, but a year's absence was granted him instead, which was spent in Germany. After one year more at Danvers he was, in February, 1886, called to the Butler Hospital, Providence, R. I., to succeed, as Superintendent, Dr. John W. Sawyer, deceased.

Dr. Goldsmith came to the Superintendency of the Butler Asylum in the enjoyment of a high reputation, and upon the earnest recommendation of Dr. Nichols, of Bloomingdale Asylum, and the work he subsequently performed only served to indicate more fully the kind of man he was. Without losing complete harmony with the methods of Dr. Sawyer, he developed a system of treatment and government whose excellence will surely be perpetuated. A friend who knew him intimately has thus written of him, "He was born to command, and what it took others long years to acquire he seemed to grasp without effort, and yet he was always deliberate, careful, and methodical in all which was brought to his attention, but once having acquired it he never lost its possession, so that he was ever gaining and broadening without any retrogression. He entered upon his duties at Danvers with the firm and quiet dignity of a man of years of experience, and so conducted the affairs of that great institution as to command the respect and love of all who were in any way connected with it. His yea was yea, and his nay was nay; and yet there was no sense of fear or dread in his rule. He was a kingly man whose rule, though firm, was the rule of duty and love."

His creed, though short, was all comprehensive, viz., "Love to God and love to his fellow-man."

Dr. Goldsmith was a Fellow of the Rhode Island Medical Society. He was unmarried. A widowed mother and a sister survive him. In his death the medical profession loses one of its most earnest, most useful, and most promising followers.

## NEWS ITEMS.

**Surgeon-General Gunnell.**—A Washington special to the *New York Times* states that the impression prevails among naval officers that Secretary Whitney has been unjust to Medical Director F. M. Gunnell in not reappointing him Surgeon-General of the Navy, and thereby enabling him to retire with the relative rank of Commodore. The Secretary hesitated for some time over this appointment, and it was only after he was convinced that no injustice would be done Dr. Gunnell that he concluded to appoint Medical Director Browne. There is a law not generally known, it seems, that gives staff officers retiring at the age of sixty-two, after forty years of faithful service, the relative rank of Commodore. Dr. Gunnell will have been over forty years in the service at the date of his retirement, and therefore will retire with the rank of Commodore. This provision is contained in Section 1481 of the Revised Statutes, and it was reading that

section which determined the Secretary to supersede Dr. Gunnell.

**Philadelphia Polyclinic Course of Lectures.**—The remaining evening lectures in the Polyclinic course will be given on the following dates at the Polyclinic Building, Broad and Lombard Streets:

April 3, Prof. Charles H. Burnett: Excision of the Membrana Tympani in Chronic Ear Diseases.

April 10, Prof. Arthur Van Harlingen: The Management of Eczema in Old People.

April 20, Prof. J. Henry C. Simes: The Treatment of the Primary Lesions in Syphilis.

April 24, Prof. Edward Jackson: The Character and Significance of the Retinal Lesions associated with Bright's Disease.

May 1, Prof. Alexander W. Mac Coy: Observations on the Pharyngeal Tonsil.

May 11, Prof. H. Augustus Wilson: Treatment of Lateral Spinal Curvature.

May 22, Prof. Solomon S. Cohen: Respiratory Therapeutics.

All lectures begin at 8 P.M.

**A Warning.**—The *Lancet*, in a recent issue, offers the following timely warning against the indiscriminate use of antipyrin: The public attention given to the latest remedy for sea-sickness and many other affections to which flesh is heir has its percentage of evil as well as good. Every medicament is not an unmixed advantage, and to suppose that antipyrin may be taken recklessly any more than chloral is to adopt a position of a dangerous kind. Antipyrin has on several occasions been administered with unexpected results. It is a drug which has undoubtedly powerful effects on the nervous system, especially as tending to produce a lowering action. We must strongly protest against its indiscriminate employment without the supervision of a medical man.

**A Practical Test of the Cremation of Garbage.**—The *Sanitary News* of March 10, 1888, describes a recent test of the garbage crematory at Chicago, as follows:

As yet the men who have charge of the crematory are inexperienced, the masonry is in a moist, if not a wet condition, and on the day of the test the garbage arrived late, yet, from 9 o'clock in the morning until noon, about sixty-seven double wagon loads of garbage had been incinerated. Speaking of the garbage, it was really more of a curiosity than the works, inasmuch as everything conceivable, fire-proof or inflammable, combustible or non-combustible, from a broken tooth-pick to a barrel of solid ice, was there to be burnt. During one slow, but sweeping and satisfactory glance on the refuse of a great and mighty city, we missed nothing, positively nothing—that is, over, on, or under the earth.

The furnaces and buildings surrounding them, in fact, the crematory, complete, cost but \$7000, and when one takes into consideration the great amount of teaming the work will dispense with, not to speak of the incalculable value, from a sanitary point of view, it will soon pay for itself, if it proves the success it is expected to. Garbage will be hauled to this crematory from a radius of one and one-half miles, and after it has proved successful, others will be built, probably five in all. Thirty-six wagons are

now being made for the special purpose of hauling the garbage. The capacity of the furnaces has not, as yet, been tested, but the inventor claims that they will burn anything put into them, and that a great deal can be put into them. While at the crematory we were treated to a cat and dog burning exhibition, which was very fine—that is, the ashes, as one of the party said. The furnaces have an excellent draught, and the little smoke that arose from the tall chimney was shot straight into the air, for several feet, before being carried away by the rather stiff breeze, high over the buildings in the vicinity. There was no odor perceptible, except such as arose from the garbage before it went into the furnace, which smell can be enjoyed at home, in the alley, in the back yard, or even on the sidewalk.

**Ancient Anatomical Figures.**—Le Blant, of Rome, describes figures discovered in Rome recently, without head or limbs, but with an open thorax, showing the location and relation of the viscera. The latest discovery of this sort was the finding near the temple of *Æsculapius* upon an island in the Tiber, more of these figures excellently modelled and colored. The God is said to have performed miraculous cures at the spot where these were found.—*Gazette des Hôpitaux*.

**The Cause of Dental Caries.**—The *Popular Science Monthly* for April, 1888, writes that to the question, Why do teeth decay so rapidly? Dr. Julius Pohlman answers, because we do not use them enough—showing that, as a rule, "those people who are least acquainted with the so-called hygiene of the teeth are the happy possessors of the soundest dentition"—like the negroes who chew sugar-cane; the German peasants, who are famous for their brilliant "Schwartz-brot-Zähne," or "rye-meal-bread teeth," polished but not worn out by daily mastication of dry, hard, black loaves, and the few old people left among us who persist in eating bread-crusts. Our weak and effeminate teeth are not used to hard work, and like other organs that are not exercised, tend to atrophy. "The foundation for bad teeth," says this author, "is generally laid in early childhood; for numberless mothers and nurses very carefully soften the food or remove the crust from the bread before giving it to the little folks, because it may otherwise 'hurt their teeth,' and so the child grows up with a set of unused organs in its mouth; and when we have finally succeeded by the creation of artificial conditions in producing weak organs, then we wonder why the poor child has such bad teeth, and why it is so often suffering with toothache, and why the dentist's bill is so high. Teeth are organs specialized to perform the work of mastication; they are subject to the same laws that govern other organs, and their strength is determined by their use. Understanding this, we are obliged to admit that, if we ever become a toothless race, it will be our own fault."

**Nitrite of Amyl in Warfare.**—WESTON, an electrician, concludes from his studies of projectiles, that the common form of offensive and defensive weapon at present is something that will throw a solid or an explosive metal projectile—a solid shot, a shell, or a torpedo. Explosive bullets for small arms are tabooed under the laws of war, because they do unnecessary damage, that is, they kill after striking, when the wounds they first cause would

be sufficient. It follows that if one could overpower his enemy without either killing or wounding him, that plan would be preferable to any now existing. That is what he believes can be done. It is well known that the nitrite of amyl possesses the power of causing insensibility very quickly in a human being breathing its fumes. The effect is equivalent, temporarily, to a paralytic stroke. Now, nitrite of amyl is very cheap and plentiful. He proposes to fire shells filled with this chemical instead of gunpowder. It will not be necessary to penetrate a ship. A few gallons of this nitrite dashed on the deck of a war ship would soon render her crew helpless. The most powerful ironclads would be even more vulnerable than the light cruisers, for they would be sucking down great draughts of air through their artificial ventilators, and the odor would thus rapidly permeate the whole ship. The whole crew being rendered helpless for an hour or two, the ship could, of course, be towed into a safe spot, while the captors ventilated her and removed the insensible men.—*American Analyst*, Feb. 15, 1888.

**Poisoning by Castor-oil Bean.**—EDSON reports in the *Brooklyn Medical Journal* for February, 1888, the following instance of poisoning from the castor bean:

In October, 1887, fifteen children under six years of age, and one female nurse twenty years old, all inmates of the Home for Destitute Children in this city, indulged in a repast of raw beans taken from a castor-oil plant growing in the yard of the institution. The effect upon them all was to cause severe vomiting and prostration. The vomiting was persistent and seemed but little amenable to treatment. Various measures were tried to afford relief, but none was satisfactory. The nausea and retching recurred at short intervals in many of the cases, for at least forty-eight hours after the seeds were eaten, varying in duration and severity with the number eaten, the amount of food contained in the stomach at the time, and the susceptibility of the individual children.

The number of beans eaten could not be well ascertained, but it is believed that no child ate more than three or four.

The nurse, who even yet maintains that she ate but a single one, was so affected that for over sixty hours she could not assume the upright position without the recurrence of the nausea and vomiting. She was so prostrated that she was under treatment in the hospital of the institution for ten days before she was able to resume her work. Extreme prostration was a feature of all these cases.

The remarkable feature in all these cases was, that in not a single instance was there any catharsis.

This is not in accordance with what we have been led to expect.

**Congo Paper.**—The following description of this recently introduced test for acids is of interest, in view of its application to the diagnosis of gastric diseases.

The *American Druggist* for March, 1888, gives the following formula:

Congo-red . . . . .	1 part.
Alcohol . . . . .	7500 parts.
Distilled water . . . . .	2500 parts.

Dissolve the Congo-red in the mixed liquids, and impregnate paper with the solution.

Limit of sensitiveness : 1 : 3000 toward sulphuric acid ; 1 : 2500 toward hydrochloric acid.

According to this, Congo-red appears to be an exception to other indicators, as it is less sensitive to hydrochloric than sulphuric acid.

Congo-red was proposed about two years ago as a good indicator for acids and alkalies. At first it was proposed as an indicator for free acids in the presence of alum. It is turned *blue* by acids, and *red* by alkalies, just the reverse of litmus. Though its sensitiveness is not very great, it may yet be used to advantage in some cases, where the result obtained with litmus paper remains doubtful, owing to the specific color of the liquid to be tested.

Congo-red is a name given by the "Aktiengesellschaft für Anilinfabrikation," in Berlin, to a product discovered by Paul Boettger, and patented by him on February 27, 1884. It is prepared from tetraazodiphenylchloride and naphthionic acid. It has the remarkable property of dyeing cotton without requiring a mordant, and has become the starting-point of a large number of new colors of similar properties.

**Opium Poisoning in England.**—The *Popular Science Monthly* writes that it is said that forty per cent. of all the deaths from poison in Great Britain are due to opium; and this rate of mortality, according to Dr. Wynter Blythe, "arises in a great measure from the pernicious practice, both of hard-working English mothers and the baby-farmer, of giving infants 'soothing-syrups,' 'infants' friends,' and the like, to allay restlessness and keep them asleep during the greater part of their existence." It has been calculated that one preparation alone is the undoubted cause of death of 150,000 children every year.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM MARCH 20 TO MARCH 26, 1888.

**SPENCER, WILLIAM C., Major and Surgeon.**—Died, March 22, 1888, at Fort Trumbull, Connecticut.

**FORWOOD, W. H., Major and Surgeon.**—Granted one month's leave.—S. O. 20, Department of Dakota, March 10, 1888.

**BROWN, H. E., Major and Surgeon.**—Assigned to temporary duty at Fort Barrancas, Florida, during the absence on leave of Assistant Surgeon M. C. Wyeth. On the return to duty of Captain Wyeth, Major Brown will rejoin his proper station.—S. O. 65, A. G. O., March 20, 1888.

**KIMBALL, J. P., Major and Surgeon.**—Granted leave of absence for two months, to take effect about April 10, 1888.—S. O. 68, A. G. O., March 23, 1888.

**WORTHINGTON, J. C., Captain and Assistant Surgeon.**—Granted leave of absence for four months, to take effect May 15th, or as soon thereafter as his services can be spared.—S. O. 65, A. G. O., March 20, 1888.

**WYETH, M. C., Captain and Assistant Surgeon.**—Granted leave of absence for two months, to take effect about April 1st.—S. O. 65, A. G. O., March 16, 1888.

**I**HE MEDICAL NEWS will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked. Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS should be addressed to No. 1004 Walnut Street, Philadelphia.